HAZARDOUS WASTE FACILITY PERMIT

ISSUED TO: United States Department of the Army, Anniston Army Depot
United States Department of the Army, Anniston Munitions Center
United States Department of the Army, Anniston Chemical Agent Disposal Facility Field Office
Washington Government Environmental Services Company LLC
Washington Demilitarization Company, LLC

EPA ID/PERMIT NUMBER: AL3 210 020 027

LOCATION: Calhoun County, Alabama, West of the city of Anniston, Latitude 33° 39' 00" and Longitude 85° 58' 22"

UNITS PERMITTED:

1 Spent Decontamination Storage and Treatment Tank System
1 Metal Parts Furnace
1 Container Handling Building
1 Brine Storage Tank System
3 Industrial Waste Storage Buildings
1 Roll-off Storage Building
1 Waste Transfer Facility
1 Lower Munitions Corridor
1 Brine Treatment Tank System
1 Open Burning Unit
1 Static Detonation Chamber
1 Liquid Incinerator
1 Deactivation Furnace System
1 Agent Storage Tank System
3 Conventional Waste Munitions Storage Igloos
155 Chemical Agent Storage Igloos
1 Toxic Maintenance Area
1 Upper Munitions Corridor
1 Buffer Storage Area
1 Linear Projectile and Mortar Disassembly System
1 Open Detonation Unit

ISSUANCE DATE: **November 14, 2007**

Modification R1 March 24, 2008
Modification R2 September 19, 2008
Modification R3 April 20, 2009
Modification R4 June 15, 2009
Modification R5 August 3, 2009
Modification R6 September 25, 2009
Modification R7 December 17, 2009
Modification R8 February 18, 2010
Modification R9 May 5, 2010
Modification R10 June 8, 2010
Modification R11 September 23, 2010
Modification R12 November 18, 2010
Modification R13 June 8, 2011
Modification R14 September 9, 2011
Modification R15, December 20, 2011
Modification R16, February 8, 2013
Modification R17, April 19, 2013
Modification R18, June 28, 2013
Modification R19, January 10, 2014

EXPIRATION DATE: **November 13, 2017**

This Permit is issued pursuant with the ***Code of Alabama 1975****, §§ 22-30-1-****et. seq.****, as amended, and regulations adopted thereunder and the Hazardous Wastes Management and Minimization Act and in accordance with the plans and specifications and applications filed with the Department subject to the conditions appended hereto, all of which are considered a part of this Permit. This Permit shall be subject to all applicable laws of the State of Alabama, rules and regulations and orders of the Department of Environmental Management and shall be effective from the date of issuance.*

_____
Alabama Department of Environmental Management

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
HAZARDOUS WASTE STORAGE AND TREATMENT PERMIT

Permittee: **United States Department of the Army, Anniston Army Depot**
United States Department of the Army, Anniston Munitions Center
United States Department of the Army, Anniston Chemical Agent Disposal Facility Field Office
Washington Government Environmental Services Company LLC
Washington Demilitarization Company LLC
Permit Number: AL3210020027
EPA I.D. No.: AL3210020027
Anniston, Alabama
Modification Number: R19

Pursuant to the Hazardous Wastes Management and Minimization Act, Code of Ala. 1975, Section 22-30-1, et. seq., as amended, and attendant regulations promulgated thereunder by the Alabama Department of Environmental Management (ADEM), a permit is issued to the United States Department of the Army, Anniston Army Depot (Facility Owner, Facility Co-Permittee, Facility Operator); the United States Department of the Army, Anniston Munitions Center (Facility Co-Permittee, Facility Co-Operator (ANMC operations)); the United States Department of the Army, Anniston Chemical Agent Disposal Facility Field Office (Facility Co-Permittee, Facility Co-Operator (Anniston Chemical Disposal Facility (ANCDF) Site)); Washington Government Environmental Services Company LLC (Facility Co-Permittee, Facility Co-Operator (ANCDF Site)); and Washington Demilitarization Company LLC (Facility Co-Permittee, Facility Co-Operator (Static Detonation Chamber (SDC) site)) to operate a hazardous waste storage and treatment facility located in Calhoun County, Alabama, West of the city of Anniston, latitude 33° 39' 00" and longitude 85° 58' 22".

For purpose of clarification, the designations Facility Owner, Facility Co-Permittee, Facility Operator, and Facility Co-Operator hereinafter shall be referred to as Owner, Permittee, and Operator respectively. The use of referring to Co-Permittee as Permittee and Co-Operator as Operator shall not change legal obligations and/or responsibilities.

In order to ensure the proper execution of this Permit, the Permittee agrees to the following division of operation responsibility:

- The U.S. Department of the Army, Anniston Army Depot (ANAD), as Facility Owner, a Permittee and Operator, acknowledges its responsibility for hazardous waste management activities at the ANAD Facility. These responsibilities include funding, policy, capital expenditures, design, programmatic and scheduling decisions, general oversight of contractor activities, interim or corrective actions, and closure or post-closure activities.
- The U.S. Department of the Army, Anniston Munitions Center (ANMC), as Permittee and Operator, acknowledges its responsibility for hazardous waste management activities under the control of ANMC as a tenant property to ANAD. These responsibilities include funding, policy, capital expenditures, design, programmatic and scheduling decisions, general oversight of contractor activities, interim or corrective actions and closure or post-closure activities. The areas under ANMC control include the energetic treatment of waste munitions by open burning and open detonation and the associated storage of waste within permitted igloos for these operations.
- The U.S. Department of the Army, ANCDF Field Office (AFO) as a Permittee and Operator, acknowledges its responsibility for hazardous waste management activities at the ANCDF Site, including responsibility for funding, policy, capital expenditures, design, programmatic and scheduling decisions, general oversight of contractor activities, interim or corrective actions, and closure or post-closure activities.
- Washington Government Environmental Services Company LLC as a Permittee and Operator, acknowledges its responsibility for hazardous waste management activities at the ANCDF Site for day to day management within its direct management control and authority (including waste analysis, handling and monitoring, record keeping and related hazardous waste activities) as governed by law and the decisions and direction of the Army.
- Washington Demilitarization Company LLC as a Permittee and Operator, acknowledges its responsibility for hazardous waste management activities at the SDC Site for day to day management within its direct

ED_001691B_00010951

management control and authority (including waste analysis, handling and monitoring, record keeping and related hazardous waste activities) as governed by law and the decisions and direction of the Army. The areas under control include the Building 695 Complex and the SDC used for the treatment of energetic waste munitions and the associated storage of waste within permitted service magazines for these operations.

The Permittee must comply with all terms and conditions of this Permit. This Permit consists of the conditions set forth herein (including those in any attachments), and the applicable regulations contained in Chapters 335-14-1, 335-14-2, 335-14-5, 335-14-7, 335-14-8, and 335-14-9 of the ADEM Administrative Code (hereinafter referred to as the "AAC"). Applicable AACs are those which are in effect on the date of issuance of this Permit.

This Permit is based on the assumption that the information contained in the ANCDF Part B Permit Application dated December 6, 2006, as revised on January 5, 2007, August 30, 2007, November 26, 2007, January 7, 2008, February 2, 2008, February 4, 2008, February 19, 2008, June 19, 2008, August 25, 2008, August 27, 2008, November 18, 2008, December 1, 2008, December 22, 2008, February 6, 2009, March 11, 2009, March 23, 2009, May 4, 2009, May 26, 2009, June 25, 2009, July 10, 2009, August 18, 2009, September 2, 2009, October 14, 2009, January 11, 2010, February 5, 2010, April 21, 2010, May 10, 2011, June 28, 2010, August 12, 2010, September 7, 2010, October 7, 2010, December 10, 2010 January 18, 2011, May 9, 2011, August 19, 2011, October 18, 2011, January 3, 2012, January 4, 2012, February 2, 2012, March 27, 2012, July 2, 2012, April 3, 2013, and October 13, 2013 (hereby incorporated by reference and hereafter collectively referred to as the Application) is accurate.

Any inaccuracies found in this information could lead to the termination or modification of this Permit and potential enforcement action (AAC 335-14-8).

The Permittee must inform ADEM of any deviation from or changes in the information in the Application which would affect the Permittee's ability to comply with the applicable AAC or permit conditions.

This Permit is effective as of November 14, 2007, as revised March 24, 2008, September 19, 2008, April 20, 2009, June 15, 2009, August 3, 2009, September 25, 2009, December 17, 2009, February 18, 2010, May 5, 2010, June 8, 2010, September 23, 2010, November 18, 2010, June 8, 2011, September 9, 2011, December 20, 2011, February 8, 2013, April 19, 2013, June 28, 2013, and January 10, 2014 and shall remain in effect until November 13, 2017, unless revoked and reissued, or terminated (See ADEM Admin. Code rule 335-14-8-.04(4)).

Alabama Department of Environmental Management	Date Signed

ED_001691B_00010951

TABLE OF CONTENTS

MODULE		NUMBER OF PAGES
I	STANDARD PERMIT CONDITIONS	19
II	GENERAL FACILITY CONDITIONS	17
III	ANCDF CONTAINER STORAGE	24
IV	TANKS SYSTEMS	20
V	MISCELLANEOUS TREATMENT UNITS	23
VI	INCINERATION – SHAKEDOWN, TRIAL-BURN, AND POST TRIAL-BURN	44
VII	INCINERATION – NORMAL OPERATIONS	61
VIII	CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS	18
IX	ANAD CONTAINER STORAGE	10
X	GROUNDWATER MONITORING AND CORRECTIVE ACTION	10

ATTACHMENTS		NUMBER OF PAGES
1.	RESERVED	1
2.	RESERVED	1
3.	RESERVED	1
4.	RESERVED	1
5.	RESERVED	1
6.	RESERVED	1
7.	RESERVED	1
8.	WASTE MINIMIZATION CERTIFICATION OBJECTIVES	2

DOCUMENTS INCLUDED BY REFERENCE:

Part B Permit Application (all revisions listed below)

ANCDF 2002 Risk Assessment and Subsequent Addendums

Final Mustard Trial Burn Plan

Mustard Condition 1 and Condition 2 Trial Burn Reports

Final SDC Emission Test Plan

SDC Emissions Test Reports

Anniston Chemical Activity Chemical Munitions Storage Igloo Closure Plan

ED_001691B_00010951

THE RESOURCE CONSERVATION AND RECOVERY ACT HAZARDOUS WASTE PERMIT APPLICATION FOR THE U.S. DEPARTMENT OF THE ARMY, ANNISTON ARMY DEPOT, THE U.S. DEPARTMENT OF THE ARMY, ANNISTON CHEMICAL AGENT DISPOSAL FACILITY FIELD OFFICE, AND WASHINGTON GOVERNMENT ENVIRONMENTAL SERVICES, LLC DATED DECEMBER 6, 2006, AS AMENDED JANUARY 5, 2007, RESUBMITTED AUGUST 30, 2007, AS MODIFIED BY SUBSEQUENT AMENDMENTS DATED NOVEMBER 26, 2007, JANUARY 7, 2008, FEBRUARY 2, 2008, FEBRUARY 4, 2008, FEBRUARY 19, 2008, JUNE 19, 2008, AUGUST 25, 2008, AUGUST 27, 2008, NOVEMBER 18, 2008, DECEMBER 1, 2008, DECEMBER 22, 2008, FEBRUARY 6, 2009, MARCH 11, 2009, MARCH 23, 2009, MAY 4, 2009, MAY 26, 2009, JUNE 25, 2009, JULY 10, 2009, AUGUST 18, 2009, SEPTEMBER 2, 2009, OCTOBER 14, 2009, JANUARY 11, 2010, FEBRUARY 5, 2010, APRIL 21, 2010, MAY 10, 2011, JUNE 28, 2010, AUGUST 12, 2010, SEPTEMBER 7, 2010, OCTOBER 7, 2010, DECEMBER 10, 2010, JANUARY 18, 2011, MAY 9, 2011, AUGUST 19, 2011, OCTOBER 18, 2011, JANUARY 3, 2012, JANUARY 4, 2012, FEBRUARY 2, 2012, MARCH 27, 2012, JULY 2, 2012, APRIL 3, 2013, AND OCTOBER 28, 2013 (HEREAFTER COLLECTIVELY REFERRED TO AS THE APPLICATION) IS HEREBY INCORPORATED BY REFERENCE INTO THIS PERMIT AND THE PERMITTEES SHALL BE SUBJECT TO THE REQUIREMENTS THEREIN.

ED_001691B_00010951

LIST OF ACRONYMS

%	Percent
°F	Degrees Fahrenheit
2MRA	2 Minute Rolling Average
AAC	ADEM Administrative Code
ACAMS	Automatic Continuous Air Monitoring System
ACFM	Actual Cubic Feet per Minute
ACS	Agent Collection System
ACT	Agent Collection Tank
ADEM	Alabama Department of Environmental Management
ANMC	Anniston Munitions Center
AFO	Anniston Field Office
AHWMMA	Alabama Hazardous Wastes Management and Minimization Act
AL	Airlock
ANAD	Anniston Army Depot
ANCA	Anniston Chemical Activity
ANCDF	Anniston Chemical Demilitarization Facility
AOC	Area of Concern
AQS	Agent Quantification System
ASC	Allowable Stack Concentration
ASME	American Society of Mechanical Engineers
ATB	Agent Trial Burn
AWFCO	Automatic Waste Feed Cutoff
BD	Buried Detonation
BDAT	Best Demonstrated Available Technology
BSA	Buffer Storage Area
BTS	Brine Treatment System
BTU	British Thermal Unit
CAIRA	Chemical Accident/Incident Response and Assistance
CAMDS	Chemical Agent/Munition Disposal System
CAMU	Corrective Action Management Unit
CDC	Centers for Disease Control
CEC	Cation Exchange Capacity
CEM	Continuous Emissions Monitor
CFM	Cubic Feet Per Minute
CFR	Codified Federal Regulations
CHB	Container Handling Building
Cl_2	Chlorine
CLA	Chemical Limited Area
CMS	Corrective Measure Study
CO	Carbon Monoxide
CO_c	Corrected CO ppm
CO_m	Measured CO ppm
CON	Control Room
CS	Confirmatory Sampling
CSDP	Chemical Stockpile Disposal Program
CWA	Clean Water Act
D/P	Differential Pressure
DAAMS	Depot Area Air Monitoring System

ED_001691B_00010951

DAL	MPF Discharge Air Lock
DDESB	Department of Defense Explosive Safety Board
DECON	Decontamination
DFS	Deactivation Furnace
DHHS	Department of Health and Human Services
DOD	Department of Defense
DOT	Department of Transportation
DPE	Disposable Protective Ensemble
DRE	Destruction and Removal Efficiency
DSCFM	Dry Standard Cubic Feet per minute
ECR	Explosive Containment Room
ECV	Explosive Containment Room Vestibule
EONC	Enhanced On-site Container
EPA	Environmental Protection Agency
EVAP	Evaporator
EXCH	Exchanger
FD	Forced Draft
FFA	Federal Facilities Agreement
FPI	Feed Prohibitive Interlock
FT	Foot
FT^2	Squared Feet
FT^3	Cubed Feet
G	Grams
GAL	Gallons
GC	Gas Chromatograph
GFE	Government Furnished Equipment
GPL	General Population Limit
GPM	Gallons Per Minute
HCl	Hydrochloride
HDC	DFS Heated Discharge Conveyor
HEPA	High Efficiency Particulate Air
HF	Hydrofluoride
HHRA	Human Health Risk Assessment
HHS	Health and Human Services
HMMS	Hazardous Materials Management System
HPLC	High Performance Liquid Chromatography
HR	Hour
HSWA	Hazardous and Solid Waste Amendment
HTH	High Test Hypochlorite
HVAC	Heating, Ventilation, and Air Conditioning
HWMU	Hazardous Waste Management Unit
IAW	In Accordance With
I.D.	Identification
ID	Induced Draft
IDLH	Immediately Dangerous to Life and Health
IDS	Intrusion Detection System
INWC	Inches of Water Column
JACADS	Johnston Atoll Chemical Agent Disposal System
JSB	Job Safety Breakdown
LAB	Laboratory
LBs	Pounds

ED_001691B_00010951

LBs/2-min	Pounds Per 2-minute Average
LDR	Land Disposal Restrictions
LIC	Liquid Incinerator
LMC	Lower Munitions Corridor
LPMD	Linear Projectile/Mortar Disassembly
LSS	Life Support System
m^3	Cubed Meter
MCL	Maximum Contaminant Level
M-CR	Munition Corridor
M-CR-AL	Munitions Corridor Airlock
MDB	Munition Demilitarization Building
MEK	Methyl Ethyl Ketone
MG	Milligram
MIN	Minute
Mini-CAMS	Miniature Continuous Air Monitoring System
MMR	Military Munition Rule
MPB-AL	Munitions Processing Bay Airlock
MPF	Metal Parts Furnace
MSDS	Material, Safety and Data Sheets
ND	Non-Detect
NDE	Non-Destructive Examination
NEW	Net Explosive Weight
No	Number
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
O_2	Oxygen
O_m	Measured Percent Oxygen
OB	Open Burning
OD	Open Detonation
ONC	Onsite Storage Container
P_c	Corrected Concentration of Particulate Matter
P_m	Measured Concentration of Particulate Matter
PAS	Pollution Abatement System
PCB	Polychlorobiphenyls
PFS	Pollution Abatement System Filtration System
PIC	Products of Incomplete Combustion
PM	Particulate Matter
PMB	Personnel Maintenance Building
POHC	Principal Organic Hazardous Constituents
POL	Petroleum, Oil and Lubricants
PPB	Parts Per Billion
PPE	Personal Protective Equipment
PPM	Parts Per Million
PPMW	Parts Per Million by Weight
PRA	Preliminary Risk Assessment
PRW	Process Water
PSIG	Pounds Per Square Inch Gauge
PUB	Process and Utility Building
QAPP	Quality Assurance Project Plans
QA/QC	Quality Assurance/ Quality Control
RA	Risk Assessment

ED_001691B_00010951

RAA	Risk Assessment Addendum
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFC	Request for Concurrence
RFI	RCRA Facility Investigation
RHA	Residue Handling Area
RL	Reporting Limit
ROHA	Rolling Hourly Average
RPM	Rounds Per Minute
S	Seconds
SAR	SWMU Assessment Report
SCBA	Self Contained Breathing Apparatus
SCFH	Standard Cubic Feet per Hour
SDC	Static Detonation Chamber
SDS	Spent Decontamination Solution
SGU	Specific Gravity Unit
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
SOPC	Substances of Potential Concern
STB	Surrogate Trial Burn
STEL	Short-Term Exposure Level
STL	Short Term Limit
SWMU	Solid Waste Management Unit
TAP	Toxicological Agent Protective Gear
TBD	To Be Determined
TC	Toxicity Characteristic
TCLP	Toxicity Characteristic Leaching Procedure
TMA	Toxic Management Area
TOX	Toxic Cubicle
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, Disposal
TSDF	Treatment, Storage, Disposal Facility
UMC	Upper Munition Corridor
UPA	Unpack Area
US	United States
WAP	Waste Analysis Plan
WCL	Waste Control Limit
WIC	Waste Incineration Container
WMM	Waste Military Munitions
WPL	Worker Protection Limit
WTF	Waste Transfer Facility
Y	Measured Oxygen Concentration in the Stack Gas

ED_001691B_00010951

MODULE I: STANDARD PERMIT CONDITIONS

TABLE OF CONTENTS **PAGE**

I.A. EFFECT OF PERMIT 3
I.B. DEFINITIONS 4
I.C. PERMIT ACTIONS 8
I.D. SEVERABILITY 8
I.E. DUTIES AND RESPONSIBILITIES 9
1. Duty to Comply 9
2. Duty to Reapply 9
3. Permit Expiration 9
4. Continuation of Expiring Permit 9
5. Obligation for Corrective Action 10
6. Need to Halt or Reduce Activity Not a Defense 10
7. Duty to Mitigate 10
8. Proper Operation and Maintenance 10
9. Duty to Provide Information 10
10. Inspection and Entry 11
11. Monitoring and Records 11
12. Reporting Planned Changes 12
13. Reporting Anticipated Noncompliance 12
14. Certification of Construction or Modification 12
15. Transfer of Permit 13
16. Compliance Schedules 14
17. 24-Hour Reporting 14
18. Other Noncompliance 16
19. Other Information 16
I.F. SIGNATORY REQUIREMENT 16
I.G. CONFIDENTIAL INFORMATION 16
I.H. REPORTS, NOTIFICATIONS, AND SUBMITTALS 17
I.I. DOCUMENTS TO BE MAINTAINED AT THE ANAD FACILITY 17
I.J. ATTACHMENTS 18

I.K. PERMIT MODIFICATIONS AND SUBMITTALS 18

LIST OF TABLE(S) PAGE

Table 1-1: Chemical Agent Exposure and Stack Limits 19

MODULE I: STANDARD PERMIT CONDITIONS

I.A. EFFECT OF PERMIT

1. At the Anniston Chemical Agent Disposal Facility (ANCDF), the Permittee is allowed to store and treat hazardous waste or chemical agent in accordance with (IAW) the conditions of this Permit and IAW ADEM Administrative Code (AAC) 335 Division 14. The Permittee is allowed to store hazardous waste or chemical agent in containers, treat and store hazardous waste or chemical agent in tanks, treat hazardous waste or chemical agent in miscellaneous treatment units, and treat hazardous waste or chemical agent by incineration at the ANCDF. ANCDF is also allowed to accumulate hazardous waste onsite for less than 90 calendar days pursuant to AAC 335-14-3-.03(5).

2. Within the Anniston Army Depot (ANAD), the Permittee is allowed to thermally treat conventional waste military munitions hazardous waste by open burning and open detonation (OB/OD) IAW AAC 335-14-5-.24 in the designated OB and OD units. Any treatment, storage, or disposal (TSD) of hazardous waste or chemical agent not authorized in this Permit, by AAC 335 Division 14 or any other Resource Conservation and Recovery Act (RCRA) permit is prohibited. Within the ANAD, the Permittee is allowed to store industrially derived hazardous waste, non-regulated waste (solid and universal waste, used oil, etc.), waste conventional munitions, waste chemical agent munitions, and chemical agent derived wastes IAW the conditions of this Permit and IAW AAC 335 Division 14. The Permittee is allowed to receive shipment from off-site sources of waste conventional munitions for the purpose of reuse, recycle, recovery, or for disposal. Receipt of any other hazardous waste from off-site sources is not allowed. The Permittee is allowed to store waste chemical agent munitions and chemical agent derived wastes for a time period of greater than one year.

3. Pursuant to AAC 335-14-8-.01(4), compliance with this Permit constitutes compliance, for purposes of enforcement, with the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA) and RCRA, as amended by Hazardous and Solid Waste Amendments (HSWA), except for those requirements not included in the requirements which become effective by statute, or future regulatory changes to include those requirements promulgated under AAC 335-14-9 restricting the placement of hazardous wastes in or on the land. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations. Compliance with the terms of this Permit does not constitute a defense to any action brought under Code of Alabama 1975, Section 22-30-1, et. seq., as amended, or any other law governing protection of public health or the environment for any imminent and substantial endangerment to human health, welfare, or the environment.

I.B. DEFINITIONS

For the purpose of this Permit, terms used herein shall have the same meaning as those in AAC 335-14-1, 335-14-2, 335-14-5, and 335-14-8, unless this Permit specifically provides otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Active life" for the purposes of this Permit refers to the time period between receipt of the first batch of hazardous waste or chemical agent munition at the hazardous waste management site and certification of closure of the hazardous waste management site.

"Action levels" for the purposes of this Permit are health-based concentrations of hazardous constituents determined to be indicators for the protection of human health and/or the environment.

"ADEM" means the Alabama Department of Environmental Management as established by Code of Alabama 1975, § 22-22A-4.

"Area of concern" (AOC) for purposes of this Permit includes any area having a probable release of a hazardous waste, chemical agent, or hazardous constituent which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Such areas of concern may require investigations and remedial action as required under Section 3005(c)(3) of the RCRA and AAC 335-14-8-.03(3) (b)2. in order to ensure adequate protection of human health and the environment.

"Chemical agent" for purposes of this Permit, includes the nerve agents VX or GB (Sarin) and the blister agent mustard (HD/HT dependent on mixture).

"Chemical agent free" for the purposes of this Permit refers to the condition of a material that, after being analyzed for chemical agents to which the material was exposed, is determined to have chemical agent concentrations below the lowest achievable detection limits as specified by the method.

"Chemical Stockpile Disposal Program" (CSDP) means the program created by the Department of Defense to dispose of all of their stockpile of unitary chemical weapons.

"Contamination" for purposes of this Permit refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (in areas not affected by the facility).

"Conventional munitions" for the purposes of this Permit means military munitions and munition products and components produced for or used by the military for national defense and security, as defined by AAC 335-14-1-.02 as "military munitions", and are <u>not</u> chemical agent munitions.

"Corrective action" for purposes of this Permit may include all corrective measures necessary to protect human health and the environment for all releases of hazardous waste, chemical agent, or hazardous constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit, as required by AAC 335-14-5-.06(12). Corrective measures may address releases to air, soils, surface water, or groundwater.

"Corrective Action Management Unit" (CAMU) for purposes of this Permit, includes any area within a facility that is designated by the Department under AAC 335-14-5-.19 for the purpose of implementing corrective action requirements under AAC 335-14-5-.06(12) , 22-30-19 et seq., Code of Alabama 1975, and/or RCRA Section 3008(h). A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

"Corrective measures" for purposes of this Permit, include all corrective action necessary to protect human health and the environment for all releases of hazardous waste, chemical agent, or hazardous constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit, as required under AAC 335-14-5-.06(12).

"DDESB" means the Department of Defense Explosive Safety Board.

"Decontamination" means the application of a solution to any waste, whether primary or secondary, equipment or facilities for the purposes of reducing agent contamination.

"Department" means the Alabama Department of Environmental Management as established by Code of Alabama 1975, § 22-22A-4.

"Extent of contamination" for the purposes of this Permit is defined as the horizontal and vertical area in which the concentrations of hazardous constituents in the environmental media being investigated are above detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Department.

"Facility" for purposes of this Permit includes ANAD and any contiguous property and structures, other appurtenances, and improvements on the property, under the control of the owner or operator seeking a permit under Subtitle C of RCRA. For the purposes of implementing corrective action under AAC 335-14-5-.06(12) a facility includes all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.

"Government furnished equipment" (GFE) is hazardous waste management unit (HWMU) equipment that shall be delivered to the site as a pre-fabricated assembly.

"Hazardous constituent" for purposes of this Permit are those substances listed in AAC 335-14-2- Appendix VIII and/or Appendix IX of Chapter 335-14-5 and

include hazardous constituents released from solid waste, hazardous waste, chemical agent and hazardous waste constituents that are reaction by-products.

"Heel" refers to the amount by weight of chemical agent remaining in a munition or container after the munition or container has gone through the chemical agent draining process.

"Hourly rolling average" (ROHA) is the arithmetic mean of the 60 most recent 1-minute averages recorded.

"In process" refers to any waste - primary or secondary – loaded for charging entering through the Unpack Area (UPA)/Toxic Maintenance Area (TMA) configured with the intent of processing through the furnace.

"Interim measures" for purposes of this Permit are actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long term corrective action remedies are evaluated and, if necessary, implemented.

"Land disposal" for purposes of this Permit and AAC 335-14-9 means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, underground mine or cave, or concrete vault or bunker intended for disposal purposes.

"Landfill" for the purposes of this Permit includes any disposal facility or part of a facility where hazardous waste is placed in or on the land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

"Normal operating" period for a unit for the purposes of this Permit shall begin when all requirements provided in Module VI for that unit have been met by the Permittee and approved by the Department, the trial burn results and the health risk assessment provided for in Condition II.N. have been evaluated and approved by the Department, and the applicable numerical values in the conditions and tables of Module VII have been established and last until the unit re-enters a shakedown, trial burn, or post-trial burn period or until the unit treats the last batch of waste prior to beginning closure operations.

"Operating day" refers to a 24-hour period during which operations occurred for any length of time.

"Operating record" for each site within the ANAD facility shall be in written format or electronic format and must be immediately accessible for viewing and printing a hard copy.

"Post-trial burn period" shall refer to the period of time extending from the completion of the final run of a trial burn as described in the trial burn plan for that unit until all requirements provided in Module VI for that unit have been met by the Permittee and approved by the Department, the trial burn results and health risk Assessment

ED_001691B_00010951

provided for in Condition II.N. have been evaluated and approved by the Department, and the applicable numerical values in the conditions and tables of Module VII have been established.

"Primary waste" is defined as munitions, ton containers, nerve agents GB and VX and mustard agents HD and HT.

"Release" for purposes of this Permit includes any spilling, leaking, pouring, emitting, emptying, discharging, injecting, escaping, leaching, pumping, or disposing into the environment of any chemical agent, hazardous waste or hazardous constituent.

"Remediation waste" for the purposes of this Permit includes all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under AAC 335-14-5-.06(12) and RCRA Section 3008(h). For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing RCRA sections 3004(v) or 3008(h) for releases beyond the facility boundary.

"Secondary waste" is defined as all waste that is not characterized as primary waste.

"Shakedown period" shall refer to the period of time required to determine operational readiness extending from systemization until the beginning of the trial burn period.

"Shutdown" for the purposes of this Permit shall be defined as the normal procedure performed to bring the furnaces from a condition of induced and forced-draft fans being operated or fuel being combusted in either chamber to a condition where no fuel is being combusted and induced and forced-draft fans are not operating.

"Site" for the purposes of this Permit includes, but is not limited to, any permitted treatment, storage or disposal activity that may be comprised of one or more HWMUs.

"Solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials, including solid, liquid, semisolid, or contained gaseous materials resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

"Solid waste management unit" (SWMU) for the purposes of this Permit includes any unit which has been used for the treatment, storage or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA regulated HWMUs are also solid waste

management units. SWMUs include areas that have been contaminated by routine and systematic releases of chemical agent, hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately remediated and cannot be linked to solid waste management activities (e.g., product or process spills).

"Spent decontamination solution" (SDS) is a caustic, bleach or other suitable solution that has been used to neutralize agent.

"Standard operating procedure" (SOP) is a written description of the procedures by which a process, machine, etc. shall be operated. An SOP may be written by the manufacturer and/or the Permittee. Adherence to any SOP employed by the Permittee does not necessarily constitute regulatory compliance.

"Startup" for the purposes of this Permit shall be defined as the procedure and the period of time required to bring the furnaces from a state of no fuel being introduced to the combustion chambers and all induced and forced-draft fans being off to a state at which all waste feed cut-off parameters are in compliance with the permitted conditions.

"Standby" for the purpose of this Permit shall be defined as the period of time which the furnace is firing only primary or backup fuel for the purpose of maintaining furnace temperatures.

"Tank system" for the purposes of this Permit shall include the tank(s) and all primary and secondary sumps, pumps, valves, and associated piping and any other appurtenances.

"Trial burn period" shall refer to the period of time from the first run until the final run of the trial burn for that unit is completed as described in the trial burn plan for that unit.

"Unit" for the purposes of this Permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, wastewater treatment unit, elementary neutralization unit, transfer station, miscellaneous treatment unit, or recycling unit.

I.C. PERMIT ACTIONS

This Permit may be modified, revoked and reissued, or terminated for cause as specified in AAC 335-14-8-.04 (2) through (4). The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition (AAC 335-14-8-.03(1)(f)).

I.D. SEVERABILITY

The provisions of this Permit are severable and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Permit

shall not be affected thereby. Invalidation of any State or Federal statutory or regulatory provision which forms the basis for any condition of this Permit does not affect the validity of any other State or federal statutory or regulatory basis for said condition.

I.E. DUTIES AND RESPONSIBILITIES

1. Duty to Comply

The Permittee must comply with all conditions of this Permit except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of Code of Alabama 1975, Section 22-30-1 et. seq., as amended, and is grounds for enforcement action, permit termination, revocation and re-issuance, modification, or denial of a permit renewal application (AAC 335-14-8-.03(1)(a)).

2. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee must apply for and obtain a new permit. Notification shall be at least 180 calendar days before this Permit expires (AAC 335-14-8-.03(1)(b)).

3. Permit Expiration

a. This Permit and all conditions therein shall be effective for 10 years from the effective date of this Permit. This Permit and all conditions therein shall remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application and, through no fault of the Permittee, the Department has not made a final determination regarding reissuance of the Permit (AAC 335-14-8-.05(1) and (2)).

b. Total operating time for the Liquid Incinerator (LIC), Deactivation Furnace System (DFS), and Metal Parts Furnace (MPF) shall be no more than 22,260 operational hours (excluding standby) with no more than 6,000 operational hours for the LIC, 8,760 operational hours for the DFS, and 7,500 hours for the MPF (excluding standby) in any consecutive 12-month period.

4. Continuation of Expiring Permit

This Permit and all conditions herein shall continue in force until the effective date of a new permit, if the Permittee has submitted a timely application under AAC 335-14-8-.02(5) and the applicable paragraphs in AAC 335-14-8-.02(6) through (20) which is a complete (under AAC 335-14-8-.02(1)(c)) application for a new permit; and through no fault of the Permittee, the Department has neither issued or denied a new permit on or before the expiration date of this Permit (AAC 335-14-8-.05(2)).

5. **Obligation for Corrective Action**

Owners or operators of HWMUs must have all necessary permits during the active life (including the closure period) of the unit, and for any period necessary to comply with the corrective action requirements in Module VIII. The corrective action obligations required by this Permit shall continue regardless of whether the facility continues to operate or ceases operation and closes. The facility is obligated to complete facility-wide corrective action regardless of the operational status of the facility.

6. **Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for the 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 (AAC 335-14-8-.03(1)(c)).

7. **Duty to Mitigate**

In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment resulting from the noncompliance, and shall carry out such measures as are reasonable, to prevent significant adverse impacts on human health or the environment (AAC 335-14-8-.03(1)(d)).

8. **Proper Operation and Maintenance**

The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance project plans (QAPP) to include following SOPs. Adherence to any SOP employed by the Permittee does not necessarily constitute regulatory compliance. This provision requires the operation of back-up or auxiliary equipment or similar systems only when necessary to achieve compliance with the conditions of this Permit (AAC 335-14-8-.03(1)(e)).

9. **Duty to Provide Information**

The Permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Department upon request, copies of records required to be kept by this Permit (AAC 335-14-8-.03(1)(h)).

10. Inspection and Entry

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow duly designated officers and the employees of the Department or their authorized representative to (AAC 335-14-8-.03(1)(i)):

a. Enter at reasonable times the Permittee's premises where the regulated facility or activity is located or 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, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

d. Sample or monitor, at reasonable times, any substances or parameters at any location for the purposes of assuring permit compliance or as otherwise authorized by the AHWMMA, as amended.

e. The Permittee shall provide to the Department unrestricted real-time remote access to continuously monitored and recorded ANCDF operating data and emissions monitoring data required by this Permit using a remote computer monitoring station.

11. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The methods used to obtain representative samples of the wastes to be analyzed must be the appropriate method from AAC 335-14-2 Appendix I or the methods as specified in the Waste Analysis Plan (see Sections II C-2 and III C-2 of the RCRA Permit Application). Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846, latest edition), Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020), or the methods as specified in the attached Waste Analysis Plan (AAC 335-14-8-.03(1)(j)).

b. The Permittee shall retain records at the facility of all monitoring information, including all calibration and maintenance records, copies of all reports and records required by this Permit, and records of all data used to complete the application for this Permit for a period of at least 3 years from the date of the sample, measurement, report or record or for periods elsewhere specified in this Permit. The Permittee shall retain, at the Facility, all monitoring records from all surface water sampling, seep sampling, soil sampling, sediment sampling, groundwater monitoring wells, and associated groundwater surface elevations until 3 years past the end of the corrective action instituted to address releases of chemical agent, hazardous waste or hazardous waste constituents from any solid

waste management unit. These periods may be extended by the request of the Department at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility (AAC 335-14-8-.03(1)(j)2. and 335-14-5-.05(5)(b)).

c. Records of monitoring information shall include (AAC 335-14-8-.03(1)(j)3.):

i. The date, exact place, and time of sampling or measurement;

ii. The individual(s) who performed the sampling for measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The analytical techniques or methods used; and

vi. The results of such analyses.

d. The Permittee shall submit all monitoring results at the intervals specified elsewhere in this Permit.

12. Reporting Planned Changes

As soon as possible prior to any planned physical alteration or addition, the Permittee shall give notice to the Department of such planned physical alterations or additions to the permitted areas on the ANAD facility (AAC 335-14-8-.03(1)(l)1.).

13. Reporting Anticipated Noncompliance

The Permittee shall give advance notice to the Department of any planned changes in the permitted ANAD facility or activity which may result in noncompliance with permit requirements. Advanced notice shall not constitute a defense for any noncompliance (AAC 335-14-8-.03(1)(l)2.).

14. Certification of Construction or Modification

a. The Permittee may not commence storage (except less than ninety day storage) or treatment of chemical agent or hazardous wastes in any new unit including GFE at the ANCDF until the Permittee has submitted to the Department, by certified mail or hand delivery, a certification of construction signed by the Permittee and a qualified professional engineer stating that the unit has been constructed in compliance with the permit and applicable regulations; and

i. The Department has inspected the modified or newly constructed site and finds it is in compliance with the conditions of the permit (AAC 335-14-8-.03(1)(l)2.(ii)(I)); or

ii. The Department has either waived the inspection or has not within 15 calendar days notified the Permittee of its intent to inspect (AAC 335-14-8-.03(1)(l)2.(ii)(II)).

b. The above mentioned certification of construction must include, at a minimum:

   i. As built drawings;

   ii. Descriptions and delineation of any changes to proposed drawings;

   iii. All required professional certifications;

   iv. All quality assurance/quality control documentation (QA/QC); and

   v. All required physical testing results.

c. Construction certification shall be maintained for the following ANCDF HWMUs or systems:

   i. Brine Storage Tanks System

   ii. Spent Decontamination Holding Tank System

   iii. Agent Collection Tank System

   iv. LIC and Pollution Abatement System (PAS)

   v. MPF and PAS

   vi. DFS and PAS

   vii. Container Handling Building (CHB)

   viii. Demilitarization machines by system

   ix. Heating, Ventilation, and Air Conditioning (HVAC) System (including carbon filter system)

   x. PAS Carbon Filters

   xi. Toxic Maintenance Area (TMA)

   xii. Waste Transfer Facility (WTF)

   xiii. Upper and Lower Munitions Corridors (UMC and LMC)

   xiv. Buffer Storage Area (BSA)

   xv. Brine Treatment System (BTS)

15. <u>Transfer of Permit</u>

This Permit shall be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to AAC 335-14-8-.04(1) and 335-14-8-.03(3)d. Prior to transferring ownership or operation of the permitted ANAD facility during its operating life, the Permittee shall notify the new owner or operator, in writing, of the requirements of AAC 335-14-5, 335-14-8, and this Permit (AAC 335-14-8-.03(1)(l)3).

16. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 14 calendar days following each schedule date (AAC 335-14-8-.03(1)(l)5.).

17. 24-Hour Reporting

a. In accordance with AAC 335-14-8-.03(1)(l)6.(i), the Permittee shall verbally report to the Department any noncompliance with this Permit which may endanger human health or the environment. Any such information shall be reported as soon as possible, but not later than 24 hours from the time the Permittee becomes aware of the noncompliance.

i. Potential endangerment to human health and the environment shall include, but not be limited to, noncompliance with Condition II.A.1.

ii. Potential endangerment to human health or the environment shall include, but not be limited to, any release to the environment of any chemical agent (i.e., GB, VX, HD, and/or HT) or any chemical agent residue which results in the following:

(I) Any release to the atmosphere from the combined stack for the LIC, DFS, and MPF, MPF Cool-Down Conveyor Enclosure Ventilation, DFS Discharge Conveyor (DC) bin change out opening, or from any stack for the air filtration system if the confirmed stack emission levels exceeds the maximum Allowable Stack Concentrations (ASCs) identified for any individual chemical agent in Table 1-1.

(II) Any unprotected workers exposed to chemical agent, exceeding the Short-Term Exposure Level (STEL) specified in Table 1-1 at any chemical agent monitor (i.e., Automatic Continuous Air Monitoring System (ACAMS)/Depot Area Air Monitoring System (DAAMS)) within the ANCDF.

iii. Potential endangerment to human health or the environment shall include any non-confirmed indication that a release to the atmosphere from the combined stack for the LIC, DFS, and MPF, or from any stack for the air filtration system has occurred. The Permittee shall verbally report to the Department within 24 hours of a chemical agent monitor alarm at the maximum ASC level that indicates a potential release to the atmosphere if the stack emission levels have not been verified as a chemical agent anomaly (i.e., false positive).

b. In accordance with AAC 335-14-8-.03(1)(l)6.(i) and (ii), the immediate and 24 hour verbal report required in Condition I.E.17.a. shall include, but not be limited to, the following:

i. Information concerning the release of any hazardous waste or chemical agent which may endanger public drinking water supplies;

ii. Any information of a release or discharge of hazardous waste or chemical agent, or of a fire or explosion at the ANAD facility, which could threaten the environment or human health; and

iii. A description of the release or discharge and its cause including, at a minimum:

(I) Name, title, and telephone number of individual reporting;

(II) Name, address, and telephone number of the owner or operator;

(III) Name, address, and telephone number of the ANAD facility;

(IV) Date, time, and type of incident;

(V) Location and cause of incident;

(VI) Name and quantity of materials involved;

(VII) The extent of injuries, if any;

(VIII) An assessment of actual or potential hazard to the environment and human health, where this is applicable;

(IX) Description of any emergency action taken to minimize the threat to human health and the environment;

(X) Estimated quantity and disposition of recovered material that resulted from the incident; and

(XI) Any other information necessary to fully evaluate the situation and to develop an appropriate course of action.

c. Within 5 calendar days of the time the Permittee is required to provide verbal notification, as specified in Conditions I.E.17.a. through b., the Permittee shall provide to the Department a written submission IAW AAC 35-14-8-.03(1)(l)6.(iii).

i. The written submission shall include, but not be limited to the following:

(I) Name, address, and telephone number of the individual reporting;

(II) A description (including cause, location, extent of injuries, if any, and an assessment of actual or potential hazard to the environment and human health outside the ANAD facility, where this is applicable) of the incident (noncompliance and/or release);

(III) The period(s) in which the incident (noncompliance and/or release) occurred (including exact dates and times);

(IV) Whether the results of the incident remain a threat to human health and the environment (whether the noncompliance has been corrected and/or the release has been adequately cleaned up); and

(V) If not, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and/or the steps taken or planned to adequately clean up the release.

ii. The Permittee need not comply with the 5 calendar day written notice requirement if the Department waives the requirement and the Permittee submits a written report within 15 calendar days from the time the Permittee is required to provide verbal notification, as specified in Conditions I.E.17.a. through b.

18. Other Noncompliance

The Permittee shall report all instances of noncompliance not reported under Condition I.E.17 on a quarterly basis. The reports shall contain the information required by the AAC 335-14-8-.03(1)(1)6.

19. Other Information

If the Permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application, permit modification request, or in any report to the Department, such facts or information shall be promptly submitted by the Permittee (AAC 335-14-8-.03 (1)(l)11.). In addition, upon request, the Permittee shall furnish to the Department any information related to compliance with the permit. The Permittee shall also promptly provide the Department all incident reports generated at any other CSDP facility.

I.F. SIGNATORY REQUIREMENT

All modifications to the RCRA Permit or Application submitted to the Department, shall be signed and certified by the ANAD Commander, ANMC Commander, ANCDF Field Office Project Manager, and WGES Project Manager, or by duly authorized representatives of those persons IAW the AAC 335-14-8-.02(2).

I.G. CONFIDENTIAL INFORMATION

The Permittee may claim information submitted as confidential if the information is protectable under Code of Alabama 1975, § 22-30-18, as amended. The term "Trade

Secret" as used in § 22-30-18 is defined in Code of Alabama 1975, § 22-30-3(12). (AAC 335-14-8-.02(3)).

I.H. REPORTS, NOTIFICATIONS, AND SUBMITTALS

1. All modifications to the RCRA Permit or Application to be sent or given to the Department should be sent by certified mail, express mail, or hand delivered to:

   Chief, Land Division
   Alabama Department of Environmental Management
   Mailing: PO Box 301463, Montgomery, AL 36130-1463
   OR
   Physical: 1400 Coliseum Blvd., Montgomery, AL 36109-2608
   Phone: (334) 271-7700
   FAX: (334) 279-3050

2. All modifications to the RCRA Permit or Application to be sent or given to the Regional Administrator should be sent by certified mail, express mail, or hand delivered to the United States (US) Environmental Protection Agency (EPA), Region 4, Waste Management Division at:

   Director, Waste Management Division
   U.S. Environmental Protection Agency, Region 4
   Atlanta Federal Center
   61 Forsyth Street SW
   Atlanta, GA 30303-3104
   Phone: (404) 562-8526

I.I. DOCUMENTS TO BE MAINTAINED AT THE ANAD FACILITY

The Permittee shall maintain at ANAD/ANCDF controlled facilities, until closure is completed and certified by a qualified professional engineer, the following documents and amendments, revisions and modifications to these documents:

1. Waste Analysis Plan (see Section C-2 of the RCRA Permit Application), as required by AAC 335-14-8-.02(5)(b)3.
2. Inspection Schedules (see Section F-2 of the RCRA Permit Application), as required by AAC 335-14-8-.02(5)(b)5.
3. Personnel training documents and records, as required by AAC 335-14-8-.02(5)(b)12.
4. Contingency Plan (Sections II G and III G of the Application), as required by AAC 335-14-8-.02(5)(b)7.
5. Operating record, as required by AAC 335-14-5-.05(4).
6. Closure Plan, as required by AAC 335-14-8-.02(5)(b)13.7. Annually adjusted closure cost estimate as required by AAC 335-14-5-.08(3)(b).
7. Copy of this Permit, Permit Attachments, current Permit Application and the current Permit Application Attachments.

8. Construction certification and as built drawings for the ANCDF HWMUs identified under Condition I.E.14.c. Construction certification and as-built drawings for any new HWMU(s) that may be constructed at ANAD or ANCD.

9. Independent tank system assessment, installation, and repair certifications; as required by AAC 335-14-8-.02(7).

10. Groundwater monitoring reports as required by AAC 335-14-5-.06.

I.J. ATTACHMENTS

1. If any of the Attachments to this Permit are found to conflict with any of the conditions in Modules I through IX, the condition shall take precedence.

2. If any section of the Application is found to be in conflict with any condition of this Permit, the condition of this Permit shall take precedence.

3. If any section of the Application is found to be in conflict with any Attachment to this Permit, the Attachment to this Permit shall take precedence.

I.K. PERMIT MODIFICATIONS AND SUBMITTALS

1. The individual trial burn plan for each different chemical agent to be treated in that incinerator shall be resubmitted by the Permittee as major permit modification(s) at least 180 calendar days prior to the proposed start date of the shakedown period for each trial burn. All applicable public comment periods and notifications as required by AAC 335-14-8-.04(2) shall be followed. The revised individual trial burn plans shall be approved by the Department prior to the start of the shakedown period for the respective trial burn.

2. The Permittee shall submit a revised Screening Risk Assessment Protocol at least 180 calendar days prior to the start date of the shakedown period for the initial agent trial burn which shall reflect the most current EPA guidance at the time of submittal. The revised Screening Risk Assessment Protocol shall be approved by the Department prior to the shakedown period for the initial agent trial burn.

3. The Permittee shall request a permit modification whenever changes in operating plans or facility design affect any plan (e.g. closure, groundwater monitoring, post-closure, or corrective actions) required or referenced by this permit. The Permittee must submit a written request for a permit modification pursuant to the requirements of ADEM Admin. Code Rule 335-14-8-.04(2) at least 60 calendar days prior to the proposed change in facility design or operation.

Table 1-1: Chemical Agent Exposure and Stack Limits

Location	Chemical Agent Concentrations (mg/m^3)		
	VX	GB	HD/HT[3]
Maximum Instantaneous ASC[1,2]	0.0003	0.0003	0.03
Maximum ROHA ASC[1,2]	0.00006	0.00006	0.006
GPL[1,3,4] (Averaging Time: 24 hours)	0.0000006	0.000001	0.00002
WPL[1,3,4] (Averaging Time: 12 Hours)	0.0000006	0.00002	0.00027
STEL [5] (Averaging Time: 15 minutes)	0.00001	0.0001	0.003
IDLH	0.003	0.1	0.7

NOTE: CDC determined that the current available data precluded acceptable exposure limits for mustard agent being precisely defined. CDC concluded that the work-place limits shall amply protect a general population 1000 meters or more from the demilitarization site or transportation route. Therefore, protection of the general public is dependent upon meeting the work-place limits within the facility.

Footnotes:

(1) Public Law 91-121/144 (USC 1512) mandates that the United States Department of Health and Human Services (DHHS) review the plans for transporting and/or disposing of lethal chemical agents and make recommendations for protecting human health and safety. DHHS delegated review and recommendation authority to the Centers for Disease Control (CDC).

(2) The Department of Army proposed the maximum ASCs indicated in Table 1-1. DHHS reviewed the concentrations and announced in the March 15, 1988 Federal Register (53 FR 8504) [corrected in 53 FR 11002, April 4, 1988] that the concentrations "met HHS criteria and appear to be more restrictive than limits set on a health base alone," and therefore made no recommendation for changes.

(3) 3 The March 15, 1988 Federal Register (53 FR 8504) [corrected in 53 FR 11002, April 4, 1988] announced that CDC concluded that the concentrations indicated in Table 1-1 shall adequately protect human health; "even long-term exposure to these concentrations would not create any adverse health effects."

(4) The October 9, 2003 Federal Register [Vol.68, No. 196, pp 58348-51] announced the final recommendations for protecting human health from potential adverse effects of exposure to agent GA, GB, and VX. The CDC conclusions in (3) above were not altered, but the human exposure values were lowered.

(5) The STEL is the 15-minute average of the ACAMS cycle concentrations. The STL is defined as the concentration determined by one ACAMS cycle.

Abbreviations:

ASC .....Allowable Stack Concentration
GPL .....General Population Limit
IDLH .....Immediately Dangerous to Live and Health
mg/m^3 .....milligrams per cubic meter
STEL .....Short-Term Exposure Level
WPL.....Worker Population Limit (time-weighted average)

MODULE II: GENERAL FACILITY CONDITIONS

TABLE OF CONTENTS **PAGE**

II.A. DESIGN AND OPERATION OF FACILITY 3
II.B. RECEIPT OF OFF-SITE WASTE 3
II.C. GENERAL WASTE ANALYSIS 3
II.D. SECURITY PROCEDURES 4
II.E. GENERAL INSPECTION REQUIREMENTS 4
II.F. TRAINING PLAN 5
II.G. PREPAREDNESS AND PREVENTION 5
II.H. CONTINGENCY PLAN 5
II.I. RECORDKEEPING AND REPORTING 6
II.J. CLOSURE 7
II.K. FINANCIAL ASSURANCE FOR FACILITY CLOSURE 8
II.L. COST ESTIMATE FOR FACILITY CLOSURE 8
II.M. LIABILITY REQUIREMENTS 8
II.N. RISK ASSESSMENT REQUIREMENTS 9
II.O. CARBON FILTER OPERATION 9
II.P. AIR EMISSION STANDARDS 11
1. GENERAL INTRODUCTION 11
2. STANDARDS 12
3. ORGANIC AIR EMISSIONS 12
II.Q WASTE MINIMIZATION 13
1. CERTIFICATION REQUIREMENTS 13
2. RECORDING REQUIREMENTS 13
3. SOLID WASTE MINIMIZATION OBJECTIVES 14
II.R. LAND DISPOSAL RESTRICTIONS 14
1. GENERAL RESTRICTIONS 14
2. LAND DISPOSAL PROHIBITIONS AND TREATMENT STANDARDS 14
II.S. PAS FILTRATION SYSTEM CARBON FILTERS 14

ED_001691B_00010951

LIST OF TABLES **PAGE**

Table 2-1: ANCDF Site Process Areas and Equipment.....16
Table 2-2: Carbon Change-Out Schedule for the MDB Filter System 17
Table 2-3: Carbon Change-Out Schedule for the LAB Filter System.....17
Table 2-4: Subpart CC Regulated Units 18

MODULE II: GENERAL FACILITY CONDITIONS

II.A. DESIGN AND OPERATION OF FACILITY

1. The Permittee shall design, construct, maintain, and operate the permitted sites at the ANAD/ANCDF facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of chemical agent, hazardous waste, or hazardous waste constituents to air, soil, groundwater, or surface water which could threaten human health or the environment.

2. The Permittee shall construct all HWMUs IAW the approved designs and specifications that are included in the Application for new units, except for minor changes deemed necessary by the Permittee to facilitate proper construction of the HWMUs. Minor deviations from the approved designs or specifications necessary to accommodate proper construction shall be noted on the as-built drawings and the rationale for those deviations shall be provided in written narrative form to the Department. After completion of construction of each HWMU, the Permittee shall submit final as-built drawings and the narrative report to the Department as part of the construction certification documentation specified in Condition I.E.14.

3. The Permittee shall ensure that all waste shipped from the facility for offsite treatment has been appropriately characterized in accordance with Section III C of the permit application. Decontamination of items identified for offsite shipment is allowed.

II.B. RECEIPT OF OFF-SITE WASTE

The Permittee is not authorized and therefore, shall not receive hazardous waste from outside the State of Alabama at the ANCDF site. The Permittee shall only treat chemical agent and/or chemical agent munitions stored onsite at the time of issuance of this Permit. The Permittee may receive hazardous waste conventional munitions from off-site Department of Defense facilities at the ANAD site (from both within and outside the State of Alabama) for the purpose of reuse, recycle, recovery and/or disposal.

II.C. GENERAL WASTE ANALYSIS

1. The Permittee shall comply with all requirements set forth under AAC 335-14-5-.02(4) and shall follow the procedures described in the Waste Analysis Plan (see Application Sections II C-2 and III C-2).

2. The Permittee may not accept an unidentified waste for storage or treatment until it has been completely characterized and this Permit has been modified.

3. The Permittee shall utilize the methods of the Waste Analysis Plan (see Application Sections II C-2 and III C-2), for the analysis of any of the wastes listed in the Part A Application (see Section I of the Application).

Modification of the Waste Analysis Plan shall require a major permit modification except as provided in AAC 335-14-8-.04(2).

4. The Permittee has verified, through testing at the Chemical Agent Munitions Disposal System (CAMDS) in Utah, that metal scrap generated from the operation of the DFS or MPF (i.e., subjected to 1,000°F for at least 15 minutes in either unit) is thermally decontaminated. Scrap metal (bulk containers, projectiles, mortar rounds, etc.) that is thermally decontaminated will be further cleaned to remove any remaining loose residue that has been determined to be a hazardous waste (e.g. vacuumed to remove any remaining loose residue in the interior and on the exterior of the part(s)). When the interior is not vacuumed these munitions will remain in closed containers until being fed into the smelting process. That hazardous waste residue shall be disposed of IAW AAC 335-14-5, -7, & -9. Thermally decontaminated scrap metal from the MPF will be recycled by using it exclusively as feedstock for the steel-making process. ANCDF must maintain records to specifically document that thermally decontaminated scrap metal has been managed and recycled in this manner. Such records must be maintained on site and presented to the Department on request.

II.D. SECURITY PROCEDURES

The Permittee shall comply with the Security Procedures set forth under AAC 335-14-5-.02(5) and as described in Sections II F-1and III F-1 of the Application. The map of the ANCDF site depicting the location of fencing and gates for the ANCDF is located in Section III B, Figure III B-4 and the entire ANAD facility is located in Sections II B, Figures II B-2 and II B-4 of the Application.

II.E. GENERAL INSPECTION REQUIREMENTS

1. The Permittee shall comply with all requirements under AAC 335-14-5-.02(6), 335-14-5-.10(6), 335-14-5-.09(5), and 335-14-5-.15(8)(b) and the Inspection Schedules (see Sections II F-2 and III F-2 of the RCRA Permit Application).

2. The Permittee shall remedy any deterioration or malfunction (of equipment or structures) discovered during any inspection as required by AAC 335-14-5-.02(6)(c).

3. The Permittee shall record all inspection reports in the operating record for each permitted hazardous waste management site as required by AAC 335-14-5-.02(6)(d).

4. The Permittee shall maintain a copy of the Inspection Schedules (see Sections II F-2 and III F-2 of the RCRA Permit Application) for each permitted HWMU at the ANAD facility until the ANAD facility is certified closed.

II.F. TRAINING PLAN

1. The Permittee shall ensure that all personnel who handle hazardous waste or chemical agent are trained in hazardous waste management, safety procedures and emergency procedures, as applicable to their job description, IAW AAC 335-14-5-.02(7) and by following the outlines and procedures in Sections II H and III H of the Application.

2. The Permittee shall maintain a copy of the training documents and records as required by AAC 335-14-5-.02(7)(d) and (e).

II.G. PREPAREDNESS AND PREVENTION

1. The Permittee shall follow the preparedness and prevention procedures in Sections II F-3 and III F-3 of the Application.

2. The Permittee shall operate and perform preventative maintenance, inspections and repair of the equipment listed in Table 2-1, at a minimum, IAW the equipment manufacturer's specifications. The Permittee shall maintain records of these preventative maintenance and repair activities on this equipment with schedules (reflecting minimum and planned frequency for the performance of these preventative maintenance activities) in the operating record of each permitted HWMU IAW Condition I.E.11.

3. The Permittee shall maintain arrangements with state and local authorities as required by AAC 335-14-5-.03(8). If state or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

II.H. CONTINGENCY PLAN

1. The Permittee shall follow the procedures and schedules outlined in the Contingency Plan in Sections II G and III G of the Application. The Contingency Plan for all hazardous waste activities within the boundaries of the ANAD shall be maintained in Sections II G and III G of the Application.

2. In case of a fire*[1] or unplanned release of hazardous waste of hazardous constituents to the environment from the ANCDF site, the Permittee shall, in addition to implementing the Integrated Contingency Plan, Attachment II in the Application, perform a staged shutdown of all affected process operations at the ANCDF site, with the exception of container storage operations and storage and treatment operations in tanks, IAW the procedures specified in Sections III D-5 through D-7 of the Application.

3. The Permittee shall not restart affected process operations after shutdown under either Condition II.H.2. or shutdown as a result of a major

* [1] With the exception of munition processing fires in the ECR, unless the sprinkler system is activated.

explosion, as designated in Section III G of the Application, unless the following has occurred:

a. The Permittee has submitted a request to resume operations to the Department accompanied by the following information:

   i. Detailed description of the accident/incident;

   ii. The cause of the accident as determined by the results of investigation of the accident;

   iii. The corrective action(s) taken; and

   iv. A copy of the notification received by the Permittee from the Anniston Chemical Agent Disposal Facility Field Office (AFO) that affected process operations are authorized to resume.

b. The Permittee has ensured that all contingency equipment and resources required for plan implementation are in place.

c. The Department has provided the Permittee a written approval to resume affected process operations.

II.I. RECORDKEEPING AND REPORTING

In addition to the recordkeeping and reporting requirements specified elsewhere in this Permit, the Permittee shall comply with the following:

1. The Permittee shall maintain a written or electronic operating record at the facility, IAW with AAC 335-14-5-.05(4) for all records identified in AAC 335-14-5-.05(4).

2. The Permittee shall, by March 31 of each year, submit to the Department a certification pursuant to AAC 335-14-5-.05(4), signed IAW AAC 335-14-8-.02(2), that the Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is the most practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

3. The Permittee shall submit a biennial report covering the activities of each of the permitted HWMUs at the ANAD facility to the Department IAW AAC 335-14-5-.05(6) and 335-14-8-.03(1)(l)9.

4. The Permittee shall submit to the Department any additional reports specified in AAC 335-14-5-.05(8).

5. All reports, notifications, applications, or other materials required to be submitted to the Department shall be submitted at the address provided in Condition I.H.1.

6. All reports, notifications, applications, or other materials required to be submitted to the Regional Administrator shall be submitted at the EPA Regional address provided in Condition I.H.2.

7. From the beginning of chemical agent disposal until the closure of the ANCDF, the Permittee shall submit a monthly report within 2 weeks after the close of the calendar month. This report shall state the number of munitions and amount of chemical agents disposed of during the previous calendar month. This report shall also report the total number of munitions and amount of chemical agents disposed of since the beginning of agent operations. This report shall also report the number of munitions and amount of chemical agents remaining to be disposed.

II.J. CLOSURE

1. The Permittee shall amend the Closure Plan, included in Sections II I and III I of the Application, IAW AAC 335-14-5-.07(3)(c) and submit it to the Department for review and approval at least 180 calendar days prior to the date scheduled for commencing closure of the ANAD and/or ANCDF.

2. The Permittee shall amend the Closure Plan, included in Section II I of the Part B Application, IAW AAC 335-14-5-.07(3)(c) and submit it to the Department for review and approval at least 180 calendar days prior to the date scheduled for commencing closure of the ANAD chemical agent storage units.

3. The Permittee shall close the ANCDF and all ANAD chemical agent storage units according to the approved Closure Plan following completion of treatment of all onsite chemical agent and/or chemical agent munitions and associated waste.

4. The Permittee shall close the ANAD Industrial/Process Hazardous Waste Storage Buildings and the ANAD Hazardous Waste Conventional Munitions Components storage igloos according to the approved ANAD Closure Plan.

5. The Permittee shall not commence closure of any HWMU without first receiving approval of a Closure Plan for that unit from the Department.

6. Within 90 calendar days of the Permittee's receipt of the written approval from the Department for any HWMU's Closure Plan, modified closure plan and the post-closure plan, IAW AAC 335-14-5-.07(4)(a), the Permittee shall complete closure of the HWMU IAW the approved plans unless otherwise approved by ADEM.

7. The Permittee shall decontaminate or dispose of all ANCDF equipment as specified in the Waste Analysis Plan included as Application Section III C-2, or the Closure Plan included in Section III I of the Application.

8. The Permittee shall meet the general closure performance standard as specified in AAC 335-14-5-.07 during closure of all HWMUs at the

ED_001691B_00010951

ANAD facility. Compliance with AAC 335-14-5-.07 shall require closure IAW Condition II.J. and the Closure Plan, included in Sections II I and III I of the Application for HWMUs.

9. The Permittee shall provide certification statements upon completion of closure for each HWMU when that HWMU at the ANAD facility has been closed IAW the applicable specifications in the Closure Plan as required by AAC 335-14-5-.07.

10. For all HWMUs, minor deviations from the permitted closure procedures necessary to accommodate proper closure shall be described in a narrative form with the closure certification statements. The Permittee shall describe the rationale for implementing minor changes as part of this narrative report. Within 60 calendar days after completion of closure of each HWMU, the Permittee shall submit the certification statements and narrative report to the Department.

11. In the event that any hazardous waste, hazardous waste constituents, contaminated subsoil, or any contaminated groundwater as specified in the Closure Plan for any HWMU cannot be clean closed by complete removal of chemical agent to below the limits specified in the ANCDF Waste Analysis Plan, the Permittee shall submit the modified closure and post-closure plans for that HWMU to the Department, as a permit modification request IAW AAC 335-14-8-.04(2) or (3), within 30 calendar days of the date that the Department notifies the Permittee in writing that the unit shall be closed in place as a landfill, IAW AAC 335-14-5-.07.

II.K. FINANCIAL ASSURANCE FOR FACILITY CLOSURE

The Permittee is exempt from the closure financial assurance requirements, IAW AAC 335-14-5-.08(1)(c).

II.L. COST ESTIMATE FOR FACILITY CLOSURE

1. The Permittee must adjust the closure cost estimate(s) annually for inflation and submit the closure cost estimate(s) to the Department no later than June 1st of each calendar year.

2. The Permittee must revise the closure cost estimate whenever there is a change in any permitted HWMU's Closure Plan as required by AAC 335-14-5-.08(3)(c).

3. The Permittee must keep in the operating record for each permitted HWMU at the ANAD facility and submit to the Department the latest closure cost estimate as required by AAC 335-14-5-.08(3)(d).

II.M. LIABILITY REQUIREMENTS

At least 180 calendar days prior to the proposed date of the shakedown period for the surrogate trial burn, Washington Government Environmental Services Company LLC shall demonstrate continuous compliance with the requirements of

AAC 335-14-5-.08(8)(a), including the requirements to have and maintain liability coverage for sudden and accidental occurrences from the ANCDF in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

II.N. RISK ASSESSMENT REQUIREMENTS

1. After each trial burn at the ANCDF, as provided for in Module VI, the Permittee shall submit to the Department a risk assessment addendum (RAA) following the revised protocol provided for in Condition I.K.2.,which shall compare the results of each trial burn or performance test to the data used in the preliminary risk assessment (PRA) with respect to emission estimates, stack parameters, and toxicity values.

2. The Permittee shall submit to the Department a post-trial burn risk assessment (RA) following the revised protocol provided for in Condition I.K.2. for the ANCDF under any of the following scenarios:

   a. The emission estimates from the trial burn have changed from the preliminary risk assessment to the degree that an unacceptable risk would result. The post-trial burn RA shall include those substances of potential concern (SOPCs) originally evaluated in the preliminary RA, all new compounds, and the mass of the unidentified emissions;

   b. The stack parameters from the trial burn have changed from the preliminary RA to the degree that an unacceptable risk would result; or,

   c. The toxicity values for the SOPCs originally evaluated in the preliminary RA have changed to the degree that an unacceptable risk would result.

II.O. CARBON FILTER OPERATION

This section applies only to the Munitions Demilitarization Building (MDB) and Laboratory (LAB) carbon filter system. Any reference to the term "LAB" refers to both the ANCDF and ANAD Laboratories (associated with chemical agent) unless specified otherwise.

1. The MDB and LAB filter systems shall be operational during chemical agent operations.

2. The MDB filter systems shall be monitored as follows:

   a. For the current agent campaign, semi-continuous chemical agent monitoring and data recording utilizing the ACAMS and the DAAMS shall be performed between carbon banks 1 and 2, 2 and 3, 3 and 4, 4 and 5, and in the filter stack . The ACAMS monitoring between carbon banks 1 and 2, 2 and 3, 3 and 4, and 4 and 5 shall be conducted by a single ACAMS connected to a

manifold that samples each location between carbon banks sequentially. If chemical agent is detected between carbon banks 1 and 2, a confirmation DAAMS sample is analyzed. If agent is confirmed, ACAMS and DAAMS sampling at this location will be suspended until the carbon in bank 1 is replaced, as described in Application Section III D-2.

b. The MDB filter stack shall have a dedicated ACAMS for the current agent campaign and additional ACAMS standardized for all previous agent campaigns.

c. At completion of the VX campaign, a VX ACAMS must be installed and connected to a manifold that samples between carbon banks 2 and 3 sequentially across each of the 7 of 9 filter bank systems in operation. Each filter bank system shall also have a dedicated VX DAAMS between banks 2 and 3 for confirmation of the VX rotating ACAMS should it be required. Each filter bank shall also have a dedicated GB DAAMS located between banks 2 and 3 of each filter that will be analyzed to monitor for chemical agent GB.

d. ACAMS and DAAMS monitoring as described in II.O.2.b and II.O.2.c. for a previous agent campaign shall continue until:

i. all secondary waste related to the previous agent has been processed, and

ii. carbon banks 1 and 2 of each of the 9 HVAC filter systems has been changed out with new carbon.

e. Continuous pressure drop monitoring and data recording shall be performed across each pre-filter and high efficiency particulate air (HEPA) filter element.

3. The LAB filter systems shall be monitored as follows:

a. Semi-continuous chemical agent monitoring and data recording utilizing the ACAMS and the DAAMS shall be performed between carbon banks 1 and 2, and in the filter stack. The LAB filter stack shall have a dedicated ACAMS.

b. Continuous pressure drop monitoring and data recording shall be performed across each pre-filter and HEPA filter element.

4. The MDB filter system shall be maintained IAW Table 2-2.

5. The LAB filter systems shall be maintained IAW Table 2-3.

6. If chemical agent is detected above the STL after the second carbon bank of an MDB or ANCDF LAB filter unit, the first and second carbon bank of that filter unit shall be changed out IAW Section III D-1h of the Application.

7. Pre- and HEPA filters in the MDB and LAB filter systems shall be changed when the pressure drop across the filter element exceeds 10 inwc.

8. The MDB and LAB filter systems shall be leak checked at the following minimum frequencies IAW Army SOPs:

   a. Initial set-up of filter unit leak check frequency:

      i. Carbon trays shall be leak checked prior to installation.

      ii. Carbon banks shall be leak checked once carbon trays are in place in the unit.

   b. Operation after initial set-up of filter unit leak check frequency:

      i. Carbon banks and filter elements shall be leak checked whenever an element of the bank is installed, modified or replaced.

      ii. Carbon banks and filter elements shall be leak checked IAW with Section III F Table III F-1 of the Permit Application.

      iii. Carbon banks and filter elements shall be leak checked (or equivalent procedure that proves filter has not been compromised) within 30 days following significant painting or a fire in the ventilation area.

9. MDB Closure Monitoring

   a. Monitoring within the MDB during the closure process shall be performed as described in Section III.I of the ANCDF Part B Application. This monitoring will include ventilated and unventilated monitoring.

   b. Once unventilated monitoring status is believed to be achieved by the facility, the facility must notify the Department in writing and receive written approval prior to releasing the MDB for demolition. The HVAC system must remain functional until ADEM approval to dismantle the MDB is obtained.

II.P. AIR EMISSION STANDARDS

1. General Introduction

Phase I Organic Air Emission Standards consist of AAC 335-14-5-.27 and .28 and/or 335-14-6-.27 and .28, for hazardous waste TSD facilities. AAC 335-14-5-.27 and 335-14-6-.27 contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that process hazardous waste or chemical agent with an annual average total organic concentration of at least 10 parts per million (ppm) by weight. AAC 335-

14-5-.28 and 335-14-6-.28 contains emission standards that address leaks from specific equipment (i.e., pumps, valves, compressors, etc.) that contains or contacts hazardous waste or chemical agent that has a total organic concentration of at least ten percent by weight.

Phase II Organic Air Emission Standards consist of AAC 335-14-5-.29 for hazardous waste TSD facilities, including certain hazardous waste generators accumulating waste on-site in RCRA permit-exempt (90-day) tanks and containers. In general, under these standards air emission controls must be used for tanks, surface impoundments, containers, and miscellaneous units which contact hazardous waste containing an average organic concentration greater than 500 ppm by weight (ppmw) at the point of origination determined by the procedure outlined in AAC 335-14-5-.29(4), except as specifically exempted under AAC 335-14-5-.29(1) and (3).

2. <u>Standards</u>

a. Prior to constructing any additional equipment not covered under this Permit with process vents subject to the requirements of AAC 335-14-5-.27, the Permittee shall supply the specific Part B information required pursuant to AAC 335-14-8-.02(15), and shall obtain a permit modification IAW the provisions of AAC 335-14-8-.04.

b. Prior to constructing any additional equipment not covered under this Permit subject to the requirements of AAC 335-14-5-.28, the Permittee shall supply the specific Part B information required pursuant to AAC 335-14-8-.02(16), and shall obtain a permit modification IAW the provisions of AAC 335-14-8-.04.

c. The Permittee shall comply with the organic air emission standards for equipment leaks in AAC 335-14-5-.28 as applicable and as specifically set forth in Section III F-2 of the RCRA Permit Application.

3. <u>Organic Air Emissions</u>

a. The Permittee shall comply with the applicable requirements of 40 CFR 264, Subpart CC, as amended November 25, 1996, effective December 6, 1996.

b. The Permittee shall immediately comply with the applicable requirements under 40 Code of Federal Regulations (CFR) 265 Subpart CC for each tank, surface impoundment, container/container storage area, and/or miscellaneous unit listed in Table 2-4.

c. The following information shall be submitted to the Department as part of the construction certification documentation specified in Condition I.E.14.:

i. For every unit listed on Table 2-4, provide "Subpart CC Status/Control Option" information regarding the applicability and chosen control option. Regulatory citations shall be noted for each exemption and/or control option. Also specify the "Operational Status" for units where Subpart CC controls are or will be implemented.

ii. For each unit listed on Table 2-4, that is exempt from Subpart CC under 40 CFR 264.1080(b)(5) through § 264.1080(b)(8), or under 40 CFR 264.1082(c), provide documentation, certifications, analytical data, and/or calculations which support each exemption.

iii. For each unit listed on Table 2-4, for which a control option has been specified, provide applicable Part B information and/or certifications required under 40 CFR 270.27.

d. The permit will be modified IAW AAC 335-14-8-.04(3) to incorporate information provided pursuant to Condition II.P.3.c.i., and the Permittee shall subsequently be evaluated for compliance based on the regulatory provisions cited under "Subpart CC Status/Option."

II.Q WASTE MINIMIZATION

1. Certification Requirements

Pursuant to AAC 335-14-5-.05(4), and Section 3005(h) of RCRA, 42 U.S.C. 6925(h), the Permittee must certify, no less often than annually, that:

a. The Permittee has a program in place to reduce the volume and toxicity of hazardous waste to the degree determined by the Permittee to be economically practicable; and

b. The proposed method of TSD is the most practicable method available to the Permittee which minimizes the present and future threat to human health and the environment.

2. Recording Requirements

If Condition II.Q.1. is applicable, then the Permittee shall maintain copies of this certification in the facility operating record as required by AAC 335-14-5-.05(4).

3. **Solid Waste Minimization Objectives**

If Condition II.Q.1. is applicable, then the Waste Minimization program required under II.Q.1. should address the objectives listed in Attachment 8.

II.R. LAND DISPOSAL RESTRICTIONS

1. **General Restrictions**

AAC 335-14-9 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances which an otherwise prohibited waste may continue to be placed on or in a land TSD unit. The Permittee shall maintain compliance with the requirements of AAC 335-14-9. Where the Permittee has applied for an extension, waiver, or variance under AAC 335-14-9 the Permittee shall comply with all restrictions on land disposal under this part once the effective date for the waste has been reached pending final approval of such application.

2. **Land Disposal Prohibitions and Treatment Standards**

a. A restricted waste identified in AAC 335-14-9-.03 may not be placed in a land disposal unit without further treatment unless the requirements of AAC 335-14-9-.03 and/or .04 are met.

b. The storage of hazardous wastes restricted from land disposal under AAC 335-14-9 is prohibited unless the requirements of AAC 335-14-9-.05 are met.

II.S. PAS FILTRATION SYSTEM CARBON FILTERS

This section applies only to the PAS Filtration System (PFS) carbon filters for the LIC, DFS, and MPF.

1. The PFS carbon filters and the associated reheaters for the LIC, DFS, and MPF shall be operational at all times during agent processing for each furnace that is in operation.

2. The PFS carbon filters shall be monitored as follows:

a. Temperature of the exhaust stream entering the PFS carbon filters shall be continuously monitored;

b. Pressure drop across the inlet and outlet HEPA filter within each PFS carbon filter shall be continuously monitored; and

c. The mid-bed DAAMS tube will be analyzed for the presence of agent on a weekly basis.

3. At each carbon change out and at project completion, carbon contained within the units will be removed and disposed of IAW the Waste Analysis Plan (see Application Section III C-2).

4. The Permittee shall monitor the pressure drop across the PFS filter beds and shall use DAAMS tubes to monitor the mid-bed of the carbon as additional indicators to determine carbon change out. The criteria for change out shall be as follows:

   a. If an upset condition in the furnace occurs, the DAAMS tube on the mid-bed of the PFS carbon filter will be analyzed. If any analysis of any mid-bed DAAMS tube indicates agent breakthrough of the first bed of a PFS carbon filter, then that carbon filter must be taken out of service. The filter cannot be placed back into service until the first bed of carbon has been replaced and leak checked.

   b. If a 0.2 ASC is confirmed by monitoring of the duct downstream of the PFS carbon filter(s) (two carbon filters associated with the DFS) then that carbon filter(s) must be taken out of service. The filter(s) cannot be placed back into service until all of the carbon has been replaced and leak checked.

Table 2-1: ANCDF Site Process Areas and Equipment

UNPACK AREA

- Conveyor Systems
- Airlock

ROCKET PROCESS SYSTEM

- Computerized Process Control System Interlocks
- Monorail With Lifting Device System
- Indexing Drum
- Rotary Metering Input Assembly
- Blast Gate Valves
- Blast Gates/Doors
- Airhole puncher
- Drain puncher
- Rocket Shear Machine/Burster Size Reduction Machine
- Conveyor System

MINE PROCESS SYSTEM

- Computerized Process Control System Interlocks
- Monorail with Lifting Device System
- Conveyor Systems
- Glove Box
- Blast Gates/Doors
- Blast Gate Valves
- Mine Machine
- Drain Station
- Pushout Station

PROJECTILE AND MORTAR PROCESSING SYSTEMS

- Computerized Process Control System Interlocks
- Monorail with Lifting Device System
- Conveyor Systems
- Blast Gates/Doors
- Blast Gate Valves
- Projectile/Mortar Disassembly Machines
- Linear Projectile / Mortar Disassembly Machines
- Multiposition Loader
- Lift Station
- Pick & Place Device

TON CONTAINER PROCESSING SYSTEM

- Computerized Process Control System Interlocks
- Monorail with Lifting Device System
- Conveyor Systems
- Bulk Drain Station
- Lift Station

Table 2-2: Carbon Change-Out Schedule for the MDB Filter System

Chemical Agent	Detection Level	Monitor Location	Banks to be Replaced	Time Frame for Banks Replacement
VX, GB, Mustard	> STL	Between Banks 2 and 3	Replace Banks 1 and 2 of the affected unit, or;	Suspension of chemical agent processing being addressed by the filter unit and immediate replacement
			Replace Banks 1, 2, and 3 of the affected unit	Within 3 months of detection
	> STL	Between Banks 3 and 4	Replace Banks 1, 2, and 3 of the affected unit	Suspension of chemical agent processing being addressed by the filter unit and immediate replacement
	> STL	Between Banks 4 and 5	Replace all banks of the affected unit	
	0.2 ASC	Filter stack		

Abbreviations:
>.....greater than
MDB.....Munitions Demilitarization Building
ASC.....Allowable Stack Concentration
STL.....Short-Term Level

Table 2-3: Carbon Change-Out Schedule for the LAB Filter System

Chemical Agent	Detection Level	Monitor Location	Banks to be Replaced	Time Frame for Banks Replacement
VX, GB, Mustard	> STL	Between Banks 1 and 2	Replace bank 1 of the affected unit	Immediate replacement
	0.2 ASC	Filter stack	Replace all banks of the affected unit	

Abbreviations:
>.....greater than
LAB.....Laboratory
ASC.....Allowable Stack Concentration
STL.....Short-Term Level

Table 2-4: Subpart CC Regulated Units

Unit Identification	Unit Type	Subpart CC Status/Control Option	Operational Status
ACS-TANK-101	Tank	Level 1 Controls/40 CFR 264.1084(c)	Operational
ACS-TANK-102			
SDS-TANK-101	Tank	Level 1 Controls/40 CFR 264.1084(c)	Operational
SDS-TANK-102			
SDS-TANK-103			
BRA-TANK-101	Tank	Exempt	Not Applicable
BRA-TANK-102			
Industrial Hazardous Waste Storage Bldg (Building 466)	Container Storage	Level 1 Controls/40 CFR 264.1086(c)	Operational
Hazardous Waste Storage Bldg (Building 512)			
Hazardous Waste Storage Bldg (Building 527)			
TWS-TANK-900	Tank	Exempt	Not Applicable
TWS-TANK-901			
TWS-TANK-902			
TWS-TANK-903			
BRA-FILT-902	Tank	Exempt	Not Applicable
BRA-FILT-903			
BRA-FILT-904			
BRA-FILT-905			
BRA-FILT-906			
BRA-FILT-907			
BRA-WTPK-900	Tank	Exempt	Not Applicable
BRA-WTPK-901			
BRA-WTPK-902			

MODULE III: ANCDF CONTAINER STORAGE

TABLE OF CONTENTS **PAGE**

III.A. CONTAINER HANDLING BUILDING 4
- **1. CHB Operation 4**
- **2. Permitted and Prohibited Waste in the CHB Storage Area 4**
- **3. EONC Design and Maintenance 5**
- **4. Compatibility of Waste with EONCs 6**
- **5. Management of EONCs 6**
- **6. Secondary Containment System 6**
- **7. Inspection Schedules and Procedures 7**
- **8. Recordkeeping 7**
- **9. Closure 7**
- **10. Reactive Waste 7**

III.B. TOXIC MAINTENANCE AREA 7
- **1. TMA Operation 7**
- **2. Permitted and Prohibited Waste in the TMA Storage Area 7**
- **3. Compatibility of Waste with Containers 7**
- **4. Management of Containers 8**
- **5. Secondary Containment System 8**
- **6. Inspection Schedules and Procedures 8**
- **7. Recordkeeping 8**
- **8. Closure 8**
- **9. Reactive Waste 8**

III.C. WASTE TRANSFER FACILITY 8
- **1. WTF Operation 8**
- **2. Permitted and Prohibited Waste in the WTF Storage Area 9**
- **3. Compatibility of Waste with Containers 9**
- **4. Management of Containers 9**
- **5. Secondary Containment System 9**
- **6. Inspection Schedules and Procedures 9**
- **7. Recordkeeping 9**

ED_001691B_00010951

8. Closure 9
9. Reactive Waste 9
III.D. UPPER AND LOWER MUNITION CORRIDORS STORAGE AREAS 10
1. UMC/LMC Operation 10
2. Permitted and Prohibited Wastes in the UMC and LMC....10
3. Compatibility of Waste with Containers 10
4. Management of Containers....10
5. Secondary Containment System....10
6. Inspection Schedules and Procedures 10
7. Recordkeeping....11
8. Closure 11
9. Reactive Waste 11
III.E. BUFFER STORAGE AREA....11
1. BSA Operation 11
2. Permitted and Prohibited Wastes in the BSA 11
3. Compatibility of Waste with Containers 11
4. Management of Containers....11
5. Secondary Containment System....12
6. Inspection Schedules and Procedures 12
7. Recordkeeping....12
8. Closure 12
9. Reactive Waste 12

LIST OF TABLES **PAGE**

Table 3-1: Hazardous Wastes to be Stored in the Permitted Area of the CHB 13
Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA 14
Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued)....15
Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued)....17

ED_001691B_00010951

Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued) **18**

Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued) **19**

LIST OF FIGURES **PAGE**

Figure 3-1: Permitted Storage Areas in the CHB **19**

Figure 3-2: Permitted Storage in the TMA **20**

Figure 3-3: Permitted Storage at the WTF **21**

Figure 3-4: Permitted Storage at the UMC and LMC **22**

Figure 3-5: Permitted Storage in the BSA **23**

MODULE III: ANCDF CONTAINER STORAGE

The ANCDF site is permitted for six container storage areas:

1) Container Handling Building (CHB) divided into two parts designated as the East and West Storage Areas (Figure 3-1),
2) Toxic Maintenance Area (TMA) (Figure 3-2),
3) Waste Transfer Facility (WTF) (Figure 3-3),
4) Upper Munition Corridor (UMC) (Figure 3-4),
5) Lower Munition Corridors (LMC) (Figure 3-4), and
6) Buffer Storage Area (BSA) (Figure 3-5).

The CHB shall be limited to the storage of munitions and various munition components containing chemical agents, explosives, and propellants; bulk containers containing chemical agents; and secondary waste from chemical agent activity. The material stored in the CHB, TMA, WTF, LMC, UMC, and BSA shall only have hazardous waste numbers D001 through D043, F001 through F005, P042, P081, U002 through U003, U044, U070, U080, U117, U154, U159, U161 and U220. Primary waste is defined as munitions, ton containers, nerve agents GB and VX and mustard agents HD and HT; and, secondary waste is defined as all waste that is not primary waste. Secondary waste will be managed IAW the Waste Analysis Plan (see Application Section III C-2). The TMA is permitted to store all primary and secondary wastes. The WTF shall be limited to the storage of waste that is below the Short Term Limit (STL) or WCL. The UMC/LMC and BSA are permitted to store all primary and secondary wastes.

The ANCDF will also have less than 90 calendar day storage areas. If the 90-day storage period is exceeded and a variance cannot be attained from the Department, then a permit modification shall be submitted to the Department. All containers in these areas shall be managed IAW the generator requirements of ADEM Administrative Code 335-14-3 as less than 90 calendar day storage areas.

The permitted container storage area has conveyor tracks that route the EONCs to the MDB for demilitarization processing.

III.A. CONTAINER HANDLING BUILDING

1. CHB Operation

The Permittee shall operate the CHB as specified in Sections III D-3a(1) of the Application.

2. Permitted and Prohibited Waste in the CHB Storage Area

a. The Permittee shall only store primary and secondary waste containing the hazardous wastes listed in Table 3-1 in the permitted storage areas of the CHB IAW the terms of this Permit. Primary waste shall be stored in the CHB permitted storage areas only when contained within an EONC.

b. The permitted container storage area shall consist of the areas within the CHB as designated in Figure 3-1. The Permittee shall not store EONCs

within the unloading areas, the conveyor corridor, or the lift areas of the CHB.

c. The Permittee shall not store more than 24 EONCs in the East or West Storage Areas or more than a total of 48 EONCs in the permitted storage area of the CHB at any one time.

d. The Permittee shall not exceed the maximum allowable number of munitions per individual EONC as specified below and shall not exceed the maximum allowable number of munitions in the permitted storage area of the CHB as specified below:

Munition	Maximum Allowable Munitions/EONC	Maximum Allowable Munitions/CHB
155-mm Projectile	72	3,456
4.2-inch Projectile	144	6,912
105-mm Projectile	96	4,608
M55 Rocket	30	1,440
Mine (w/activators and fuzes)	36	1,728
Ton Container	2	96

e. The permitted secondary waste storage area shall consist of the areas within the CHB as designated in Figure 3-1. The Permittee shall only store waste in the unloading areas and in the areas allowed for EONC storage.

f. Any container of secondary waste containing free liquids shall be provided with a secondary containment device in the CHB. The Permittee shall inspect secondary containment in the CHB for containers of secondary wastes that have free liquids weekly.

3. <u>EONC Design and Maintenance</u>

a. If an EONC holding primary waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the EONC to the TMA for unloading of its contents. If agent is detected inside the EONC, the Permittee shall decontaminate the EONC to less than WPL prior to removal from the TMA.

b. If an EONC has been found to not be in good condition as specified in Condition III.C.2, the EONC shall not be used to transport chemical agent containing munitions or ton containers until the defective EONC has been decontaminated if required, repaired and re-certified IAW the manufacturer's specifications.

4. **Compatibility of Waste with EONCs**

The Permittee shall assure that the ability of the EONCs to contain the primary waste is not impaired, IAW AAC 335-14-5-.09(3).

5. **Management of EONCs**

a. The Permittee shall deliver EONCs to the CHB only during daylight hours. EONCS will be leak checked prior to opening or weekly in accordance with RCRA Permit Application Section III F-2. The Permittee shall keep all EONCs closed during storage and transport. The Permittee shall not handle or store EONCs in a manner which may rupture the EONC or cause it to leak. EONCs containing leaking munitions will be handled in accordance with Section III D-2b of the Application.

b. EONCs containing leaking munitions shall not be returned to the igloos for storage or accumulation without ADEM approval.

c. The Permittee shall not place any munition in an EONC that previously held leaking munitions unless the EONC has been decontaminated to less than the WPL.

d. The Permittee shall ensure that each EONC is clearly marked to identify its contents and the date each period of accumulation began as specified in AAC 335-14-9-.05(1). Individual munitions will not be labeled.

6. **Secondary Containment System**

a. The EONC provides secondary containment for munitions and meets the requirements of AAC 335-14-5-.09(6) for the munitions contained within the CHB. Secondary waste containing free liquids will be placed upon self contained secondary containment devices IAW AAC-335-14-5-.09(6).

b. EONCs shall be tested for vapor tightness every time agent filled chemical munitions or bulk containers are placed into them.

c. Records of vapor tightness testing shall be kept on site as part of the ANCDF operating record and shall be subject to inspection.

d. If the ability of an EONC to contain vapors is impaired (i.e., fails a leak test), the EONC will be moved to the TMA. EONCs which failed the leak test may be repaired and retested. If the EONC cannot be repaired, the munitions will be unloaded in the TMA.

e. The CHB provides the third level of containment for agent. In the event of a spill from the EONCs, the Permittee shall send those liquids that are to be suspected to be contaminated by chemical agent to a Spent Decontamination Storage Tank. Non-agent contaminated liquids will be managed in accordance with applicable regulations.

7. **Inspection Schedules and Procedures**

The Permittee shall inspect the CHB weekly to detect leaks and deterioration caused by corrosion or other factors IAW the Inspection Schedule (see Section III F-2 of the RCRA Permit Application). All inspection data shall be recorded and the records shall be placed in the operating record IAW Condition II.I.

8. **Recordkeeping**

The Permittee shall document the results of any waste analyses and tests in the operating record IAW Condition II.I.

9. **Closure**

At closure of the CHB area, the Permittee shall remove all chemical agent and hazardous waste from the CHB IAW the approved Closure Plan.

10. **Reactive Waste**

The Permittee shall take precautions to prevent accidental reaction of wastes as stated in Section III F-5 of the ANCDF Application.

III.B. TOXIC MAINTENANCE AREA

1. **TMA Operation**

The Permittee shall operate the TMA as specified in Section III D-3a(1) of the ANCDF Application.

2. **Permitted and Prohibited Waste in the TMA Storage Area**

a. The Permittee shall only store the hazardous wastes listed in Table 3-2 in the permitted storage area of the TMA IAW the terms of this Permit.

b. The permitted container storage area shall consist of the entire area of the TMA shown in Figure 3-2. The TMA may contain both primary and secondary wastes.

c. The TMA shall provide storage of secondary waste that is contaminated to varying degrees of chemical agent. It will also provide storage for primary and secondary waste that is in process and awaiting thermal decontamination.

d. "In process" refers to any waste - Primary or Secondary – loaded for charging entering through the UPA/TMA configured with the intent of processing through the furnace.

3. **Compatibility of Waste with Containers**

The Permittee shall assure that the ability of the containers to contain the hazardous wastes is not impaired, IAW AAC 335-14-5-.09(3). In the event of a

spill that does not involve chemical agent, those liquids will be containerized for off-site disposal IAW Section C-2, Waste Analysis Plan.

4. **Management of Containers**

   a. The Permittee shall keep all containers containing waste closed during storage and transport.

   b. The Permittee shall ensure that containers other than munitions and ton containers are clearly marked to identify its content and the date each period of accumulation began as specified in AAC 335-14-9-.05(1).

5. **Secondary Containment System**

   The primary sump system in the TMA will meet the requirements of AAC 335-14-5-.10. These sumps will be additionally utilized for secondary containment of secondary waste in the TMA A, A/B, and C areas. A secondary containment device will be used for containers of secondary waste containing free liquids to meet the secondary containment requirements of AAC 335-14-5-.09(6) in the TMA D area.

6. **Inspection Schedules and Procedures**

   The Permittee shall inspect the TMA storage areas and containers weekly to detect leaks and deterioration caused by corrosion or other factors IAW the Inspection Schedule (see Section III F-2 of the RCRA Permit Application). All inspections performed in accordance with the Inspection Plan shall be documented and the records shall be placed in the operating record IAW Condition II.I.

7. **Recordkeeping**

   The Permittee shall document the results of all waste analyses and tests in the operating record IAW Condition II.I.

8. **Closure**

   At closure of the TMA, the Permittee shall remove all hazardous waste from the TMA IAW the approved Closure Plan.

9. **Reactive Waste**

   The Permittee shall take precautions to prevent accidental reaction of wastes as stated in Section III F-5 of the ANCDF Application.

III.C. WASTE TRANSFER FACILITY

1. **WTF Operation**

   The Permittee shall operate the WTF as specified in Section III D-3a(1) of the ANCDF Application.

2. **Permitted and Prohibited Waste in the WTF Storage Area**

   a. The Permittee shall only store the hazardous wastes listed in Table 3-2 in the permitted storage area of the WTF IAW the terms of this Permit.

   b. The permitted container storage area shall consist of the entire WTF as designated in Figure 3-3. The WTF may contain wastes that are less than the Short Term Limit (STL) or not greater than the Waste Control Limit (WCL) levels for chemical agent.

3. **Compatibility of Waste with Containers**

   The Permittee shall assure that the ability of the containers to contain the hazardous wastes is not impaired, IAW AAC 335-14-5-.09(3). In the event of a spill that does not involve chemical agent, those liquids will be containerized for off-site disposal IAW Section C-2, Waste Analysis Plan.

4. **Management of Containers**

   a. The Permittee shall keep all containers containing waste closed during storage and transport.

   b. The Permittee shall ensure that each container is clearly marked to identify its content and the date each period of accumulation began as specified in AAC 335-14-9-.05(1).

5. **Secondary Containment System**

   The WTF secondary containment system must satisfy the secondary containment requirements of AAC 335-14-5-.09(6) for the WTF.

6. **Inspection Schedules and Procedures**

   The Permittee shall inspect the WTF weekly to detect leaks and deterioration caused by corrosion or other factors IAW the Inspection Schedule (see Section III F-2 of the RCRA Permit Application). All inspections performed in accordance with the Inspection Plan shall be documented and the records shall be placed in the operating record IAW Condition II.I.

7. **Recordkeeping**

   The Permittee shall document the results of all waste analyses and tests in the operating record IAW Condition II.I.

8. **Closure**

   At closure of the WTF area, the Permittee shall remove all hazardous waste from the WTF IAW the approved Closure Plan.

9. **Reactive Waste**

   The Permittee shall take precautions to prevent accidental reaction of wastes as stated in Section III F-5 of the ANCDF Application.

III.D. UPPER AND LOWER MUNITION CORRIDORS STORAGE AREAS

1. UMC/LMC Operation

The Permittee shall operate the UMC and LMC as specified in Section III D-3a(1) of the ANCDF Application.

2. Permitted and Prohibited Wastes in the UMC and LMC

a. The Permittee shall only store the hazardous wastes listed in Table 3-2 in the permitted storage of the UMC and LMC IAW the terms of this Permit.

b. The permitted container storage areas shall consist of the entire UMC and LMC as designated in Figure 3-4. The UMC and LMC shall provide storage of secondary waste that is contaminated to varying degrees of chemical agent. It will also provide storage for primary and secondary waste that is in process and awaiting thermal decontamination.

c. "In process" refers to any waste - Primary or Secondary – loaded for charging entering through the UPA/TMA configured with the intent of processing through the furnace.

3. Compatibility of Waste with Containers

The Permittee shall assure that the ability of the containers to contain the hazardous wastes is not impaired, IAW AAC 335-14-5-.09(3).

4. Management of Containers

a. Munitions and ton containers in the UMC and LMC areas will be tracked using the HMMS (Hazardous Materials Management System). Secondary waste will be tracked using a logbook.

b. The Permittee shall ensure that each container is clearly marked to identify its contents and the date each period of accumulation began as specified in AAC 335-14-9-.05(1). Waste that is "in process" shall not require labeling of containers nor shall the containers be required to be closed.

5. Secondary Containment System

The primary sump systems in the LMC and UMC will meet the requirements of AAC 335-14-5-.10. These sumps will be additionally utilized for secondary containment of secondary waste in the LMC and UMC areas.

6. Inspection Schedules and Procedures

The Permittee shall inspect the containers located in the UMC and LMC weekly either by physical inspection or remotely by CCTV to detect leaks and deterioration caused by corrosion or other factors IAW the Inspection Schedule (see Section III F-2 of the RCRA Permit Application). All inspections performed

in accordance with the Inspection Plan shall be documented and the records shall be placed in the operating record IAW Condition II.I.

7. **Recordkeeping**

The Permittee shall document the results of any waste analyses and tests in the operating record IAW Condition II.I.

8. **Closure**

At the closure of the UMC and the LMC, the Permittee shall remove all hazardous waste from the UMC and the LMC IAW the approved closure plan.

9. **Reactive Waste**

The Permittee shall take precautions to prevent accidental reaction of wastes as stated in Section III F-5 of the ANCDF Application.

III.E. BUFFER STORAGE AREA

1. **BSA Operation**

The Permittee shall operate the BSA as specified in Section III D-3a(1) of the ANCDF Application.

2. **Permitted and Prohibited Wastes in the BSA**

a. The Permittee shall only store the hazardous wastes listed in Table 3-2 in the permitted storage area of the BSA IAW the terms of this Permit.

b. The permitted container storage area shall consist of the entire BSA as designated in Figure 3-5. The BSA shall provide storage of secondary waste of varying levels of agent contamination. It will also provide a buffer for primary waste that is in process and awaiting thermal decontamination.

3. **Compatibility of Waste with Containers**

The Permittee shall assure that the ability of the containers to contain the hazardous wastes is not impaired, IAW AAC 335-14-5.09(3).

4. **Management of Containers**

a. Waste in the BSA areas will be tracked using the HMMS. In addition, secondary waste will be tracked using a logbook.

b. The Permittee shall ensure that each container is clearly marked to identify its contents and the date each period of accumulation began as specified in AAC 335-14-9-.05(1). Primary waste that is designated as "in process" shall not require labeling of containers. Also, primary waste that is designated as "in process" shall not be required to be in closed containers provided that they are under engineering controls in the designated permitted storage areas within the MDB.

5. **Secondary Containment System**

The primary sump system in the BSA will meet the requirements of AAC 335-14-5-.10. These sumps will be additionally utilized for secondary containment of secondary waste in the BSA area.

6. **Inspection Schedules and Procedures**

The Permittee shall inspect the BSA weekly to detect leaks and deterioration caused by corrosion or other factors IAW the Inspection Schedule (see Section III F-2 of the RCRA Permit Application). All inspections performed in accordance with the Inspection Plan shall be documented and the records shall be placed in the operating record IAW Condition II.I.

7. **Recordkeeping**

The Permittee shall document the results of all waste analyses and tests IAW Condition II.I.

8. **Closure**

At the closure of the BSA, the Permittee shall remove all hazardous waste from the BSA IAW the approved closure plan.

9. **Reactive Waste**

The Permittee shall take precautions to prevent accidental reaction of wastes as stated in Section III F-5 of the ANCDF Application.

ED_001691B_00010951

Table 3-1: Hazardous Wastes to be Stored in the Permitted Area of the CHB

Description of Hazardous Waste	ADEM Hazardous Waste I.D. Numbers
Agent GB	D003, D004-D011
Agent VX	D003,D004-D011
Mustard Agent - HD	D003, D004-D011, D022, D028, D043
Explosives	D003
Propellants	D003, D030[2] (M6, M67)
Fuzes	D003
Detonators	D003, D005, D008
Squibs	D003, D008
Igniters	D003
Initiators	D003
Bursters	D003
Rocket Components	D003
Munition Body Components	D003
Mine Drums	D003
Secondary Waste	D001-D011, TC Organics (D012-D043)[1,3]

Footnotes:
(1) Toxicity Characteristic organic waste codes D022, D028, and D043 apply to mustard agent only.
(2) Toxicity Characteristic organic waste code D030 applies to the M6 and M67 propellant, which contains 2,4-dinitrotoluene.
(3) ANCA secondary wastes, specifically laboratory and miscellaneous wastes may carry codes D001 to D043.

Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA

ADEM Hazardous Waste I.D. Numbers	Description of Hazardous Waste
D001	Waste Mixed Fuels (Diesel, Gasoline, Kerosene)/ Miscellaneous Lab Waste (Liquid)/ Miscellaneous Waste Ignitable Materials/Reactive Waste Materials/Waste Paint and Paint Related Materials/Waste Flammable Gases Managed in Cylinders (punched) (maximum of 25 units per furnace charge)/Waste Flammable Materials Lab Packs/Waste Adhesives and Sealants/Aerosols.
D002	Miscellaneous Waste Corrosive Waste/Waste Lead Acid Batteries/Waste Acids/ Miscellaneous Lab Waste (Liquid)/Waste Corrosive Materials Lab Packs/ Waste Adhesives and Sealants/Waste Citric Acid.
D003	Waste Activated Carbon/Miscellaneous Waste Air and/or Water Reactive Chemicals & Related Waste/ Miscellaneous and Related Waste/Miscellaneous ignitable Wastes/ Miscellaneous Lab Waste (Liquid)/ Waste Flammable Gases Managed in Cylinders/Waste (i.e. waste that is above STL, Waste that is between the WPL and STL and Waste that is below the WPL) Materials (Halogen & non-Halogen Plastic, Conveyors, Chains, Rollers, Links, Gears, Bearings, Bushings, Wheels, Idlers, Gear Boxes, Gasket Materials, Seals, Collets, Drain Probes, Shear Blades, Punches, Paper, Cloth, Pads, Wood, Pallets, Gearboxes, Turntable Projectile Bushings, Projectile Pickup Heads, Carbon Absorber Trays, Pusher Assemblies, Jaw Gripper Assemblies, Pillows, Spill Adsorbents / Absorbents / Cleanup Residues, Sump Solids, Projectile Cans, Hoists, Crimp Jaws & Pins, Bore Station Blades, Motors, Conduit Solenoids, Light Fixtures, Switches, Pumps, Accumulator Bladders, Valves (Hand, Solenoid, Agent Decon, Hydraulic), Piping, Fittings, Tubing, Fittings, Spray Nozzles, Filters Cartridges/Elements & Associated Residue / Cleanup Material (Including AQS/ACS/SDS Filter Elements), Pipe Gaskets, Hydraulic Tubing, Hydraulic Motors, Hydraulic Cylinders, Chemical Seals, Pressure Regulators, Flow Control Valves, Pneumatic Actuators, Hydraulic Hose Fittings, Sensors, Load Cells, Speakers, Transmitters, Transducers, Pressure Gauges, Thermocouples, Thermowells, Test Equipment, (Meters, Gauges, etc.),Switches (Flow, Pressure, & Proximity), Cameras or Camera Parts, Low Volume Agent Samplers, Hand Tools, Grating, Glassware, Plaster, Metal Buckets, Pans & Barrels, Scrub Brushes, Banding Material, Empty Overpacks, Drums, Silicone Parts, Monitoring Sample Probes (DAAMS, etc.), PPE, LAB Debris, MDB Maintenance Equipment/DFS Cyclone Residue/ Waste Ruby Mortar, Fire Brick, Fire Brick Insulation, HARCO Bond Mortar/M55 Rocket Residue/ LIC Slag/ Kicker Chute Residues/Empty Rocket Overpacks/Empty projectile Overpacks/Agent VX/Agent GB, Mark I Antidote Kits (1 atropine and 1 pralidoxime injector), DPE leather overgarments, plastic bags used to contain contaminated wastes; metal brackets, stands, fixtures, etc,; escape air tank, mask and regulators .

Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued)

ADEM Hazardous Waste I.D. Numbers	Description of Hazardous Waste
D004-D011	Waste Carbon /Waste Adhesives & Sealants / Spent Hydraulic Fluid/Miscellaneous Toxic or Other-Regulated Waste (Heavy Metals, Organics; Solid & Liquid)/ Waste Citric Acid/Waste Acid/Waste Hydrochloric Acid residue from various operations /Waste Materials that are between the WPL and STL (Halogen and non-Halogen Plastic, Conveyors, Chains, Rollers, Links, Gears, Bearings, Bushings, Wheels, Idlers, Gear Boxes, Gasket Materials, Seals, Collets, Drain Probes, Shear Blades, Punches, Paper, Cloth, Pads, Wood, Pallets, Gearboxes, Turntable Projectile Bushings, Projectile Pickup Heads, Carbon Absorber Trays, Pusher Assemblies, Jaw Gripper Assemblies, Pillows, Spill Adsorbents / Absorbents / Cleanup Residues, Sump Solids, Projectile Cans, Hoists, Crimp Jaws and Pins, Bore Station Blades, Motors, Conduit Solenoids, Light Fixtures, Switches, Pumps, Accumulator Bladders, Valves (Hand, Solenoid, Agent Decon, Hydraulic), Piping, Fittings, Tubing, Fittings, Spray Nozzles, Filters Cartridges/Elements & Associated Residue / Cleanup Material(Including AQS/ACS/SDS Filter Elements),Pipe Gaskets, Hydraulic Tubing, Hydraulic Motors, Hydraulic Cylinders, Chemical Seals, Pressure Regulators, Flow Control Valves, Pneumatic Actuators, Hydraulic Hose Fittings, Sensors, Load Cells, Speakers, Transmitters, Transducers, Pressure Gauges, Thermocouples, Thermowells, Test Equipment,(Meters, Gauges, etc.),Switches (Flow, Pressure, & Proximity), Cameras or Camera Parts, Low Volume Agent Samplers, Hand Tools, Grating, Glassware, Plaster, Metal Buckets Pans and Barrels, Scrub Brushes, Banding Material, Empty Overpacks, Drums, Silicone Parts, Monitoring, Sample Probes (DAAMS, etc.), PPE, LAB Debris, MDB Maintenance Equipment), MDB Sump Sludge/Demister Fiber & Frames/LIC Slag/Furnace Clean Out Debris/Spent Carbon/HEPA and Prefilters/Aluminum, Bulk Metal, Concrete, Foam/Insulation, Rags/Cotton, Toxic Area Protective Gear, M-40 masks, M-40 cartridges, fiberglass/Filter Media, Leather Gloves, LSS Air Hose, DPE Suits, Teflon Wire, ACS Sludge, SDS Sludge, Paint Chips/Agent GB/Agent VX/ Miscellaneous Lab Waste (Liquid & Solid)/ DFS Cyclone Residue/ Waste Ruby Mortar, Fire Brick, Fire Brick Insulation, HARCO Bond Mortar/ LIC Slag/M55 Rocket Residue (including Kicker Chute Residue)/ Spent Hydraulic Fluid, Oils and/or Ethylene Glycol/ Miscellaneous Waste Materials Containing Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and/or Silver/ Metal Parts Furnace Residue/Waste Paint and Paint Related Materials/Waste Batteries/Lead Acid Batteries/ Spent Fluorescent Light Bulbs, Mark I Antidote Kits (1 atropine and 1 pralidoxime injector), DPE leather overgarments, plastic bags used to contain contaminated wastes; metal brackets, stands, fixtures, etc.; escape air tank, mask and regulators .
D012	Miscellaneous Waste Materials Containing Endrin
D013	Miscellaneous Waste Materials Containing Lindane
D014	Miscellaneous Waste Materials Containing Methoxychlor
D015	Miscellaneous Waste Materials Containing Toxaphene
D016	Miscellaneous Waste Materials Containing 2,4-D

D017	Miscellaneous Waste Materials Containing 2,4,5-TP (Silvex)

Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued)

ADEM Hazardous Waste I.D. Numbers	Description of Hazardous Waste
D018	Waste Gasoline/Waste Diesel/Waste Kerosene / Miscellaneous Waste Materials Containing Benzene
D019	Miscellaneous Waste Materials Containing Carbon Tetrachloride
D020	Miscellaneous Waste Materials Containing Chlordane
D021	Miscellaneous Waste Materials Containing Chlorobenzene
D022	Miscellaneous Waste Materials Containing Chloroform/ Mustard Agent - HD
D023	Miscellaneous Waste Materials Containing o-Cresol
D024	Miscellaneous Waste Materials Containing m-Cresol
D025	Miscellaneous Waste Materials Containing p-Cresol
D026	Miscellaneous Waste Materials Containing Cresol
D027	Miscellaneous Waste Materials Containing 1,4-dichlorobenzene
D028	Miscellaneous Waste Materials Containing 1,2-Dichloroethane/ Mustard Agent - HD
D029	Miscellaneous Waste Materials Containing 1,1-Dichloroethylene
D030	Miscellaneous Waste Materials Containing 2,4-Dinitrotoluene
D031	Miscellaneous Waste Materials Containing Hepachlor (and its Epodide)
D032	Miscellaneous Waste Materials Containing Hexachlorobenzene
D033	Miscellaneous Waste Materials Containing Hexachlorobutadiene
D034	Miscellaneous Waste Materials Containing Hexachloroethane
D035	Miscellaneous Waste Materials Containing Methyl Ethyl Ketone
D036	Miscellaneous Waste Materials Containing Nitrobenzene
D037	Miscellaneous Waste Materials Containing Pentrachlorophenol

Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued)

ADEM Hazardous Waste I.D. Numbers	Description of Hazardous Waste
D038	Miscellaneous Waste Materials Containing Pyridine
D039	Miscellaneous Waste Materials Containing Tetrachloroethylene
D040	Miscellaneous Waste Materials Containing Trichloroethylene
D041	Miscellaneous Waste Materials Containing 2,4,5-Trichlorophenol
D042	Miscellaneous Waste Materials Containing 2,4,6- Trichlorophenol
D043	Miscellaneous Waste Materials Containing Vinyl Chroride/ Mustard Agent - HD
F001	Spent Solvents
F002	Spent Solvents
F003	Spent Solvents/ Adhesives and Sealants
F004	Spent Solvents
F005	Spent Solvents/ Adhesives and Sealants
P042	Medical Pharmaceuticals Waste (Epinephrine)
P081	Medical Pharmaceuticals Waste (Nitroglycerin)
U002	Waste Acetone
U003	Miscellaneous Lab Waste (Solids and Liquids)
U044	Miscellaneous Lab Waste (Solids and Liquids)
U070	Miscellaneous Lab Waste (Solids and Liquids)
U080	Miscellaneous Lab Waste (Solids and Liquids)
U117	Miscellaneous Lab Waste (Solids and Liquids)
U154	Miscellaneous Lab Waste (Solids and Liquids)

Table 3-2: Hazardous Primary and Secondary Wastes to be Stored in the Permitted Area of the CHB, TMA, WTF, UMC, LMC, and BSA (Continued)

ADEM Hazardous Waste I.D. Numbers	Description of Hazardous Waste
U159	Miscellaneous Lab Waste (Solids and Liquids)
U161	Miscellaneous Lab Waste (Solids and Liquids)
U220	Miscellaneous Lab Waste (Solids and Liquids)

Figure 3-1: Permitted Storage Areas in the CHB

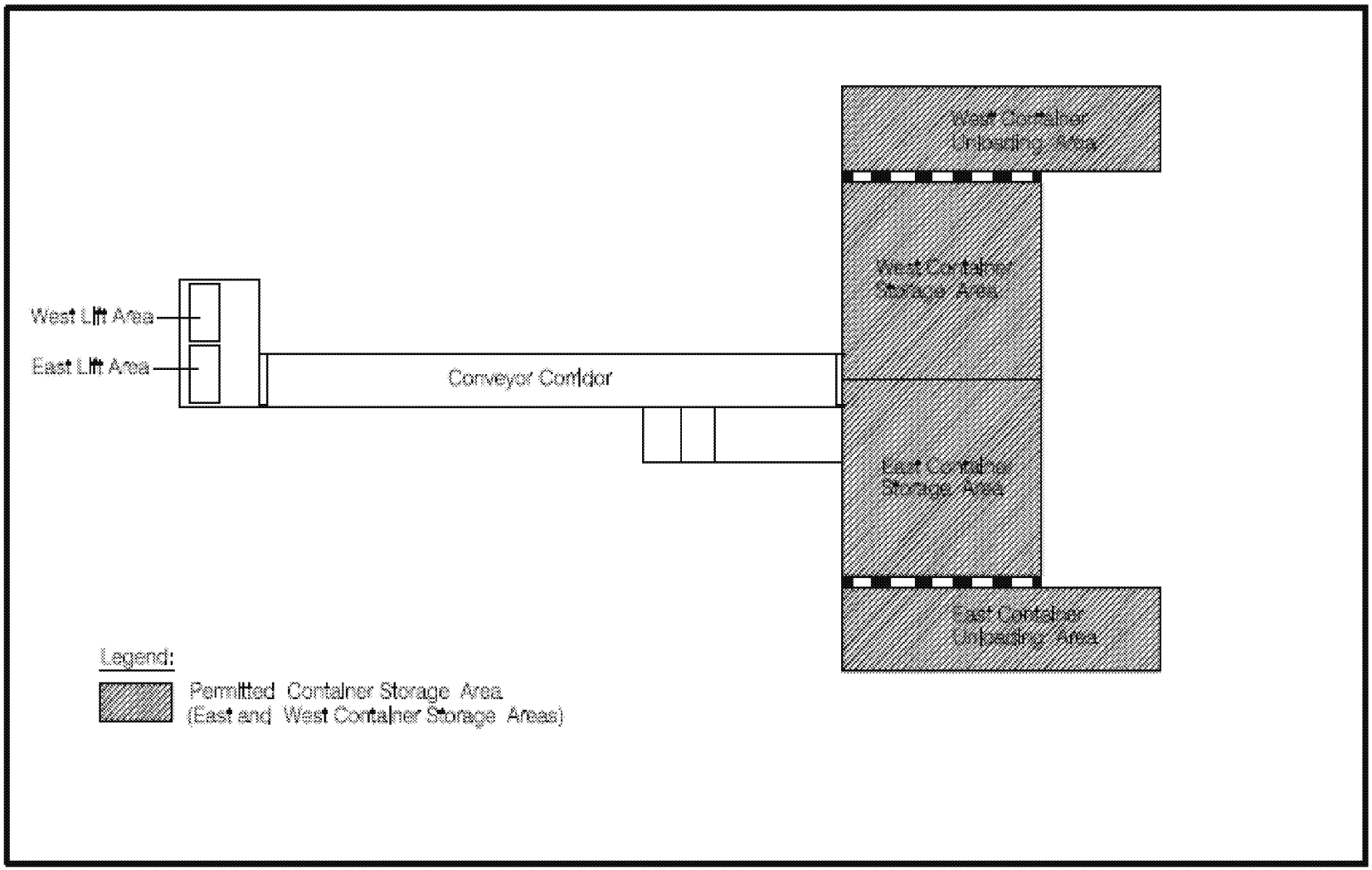


Figure 3-2: Permitted Storage in TMA

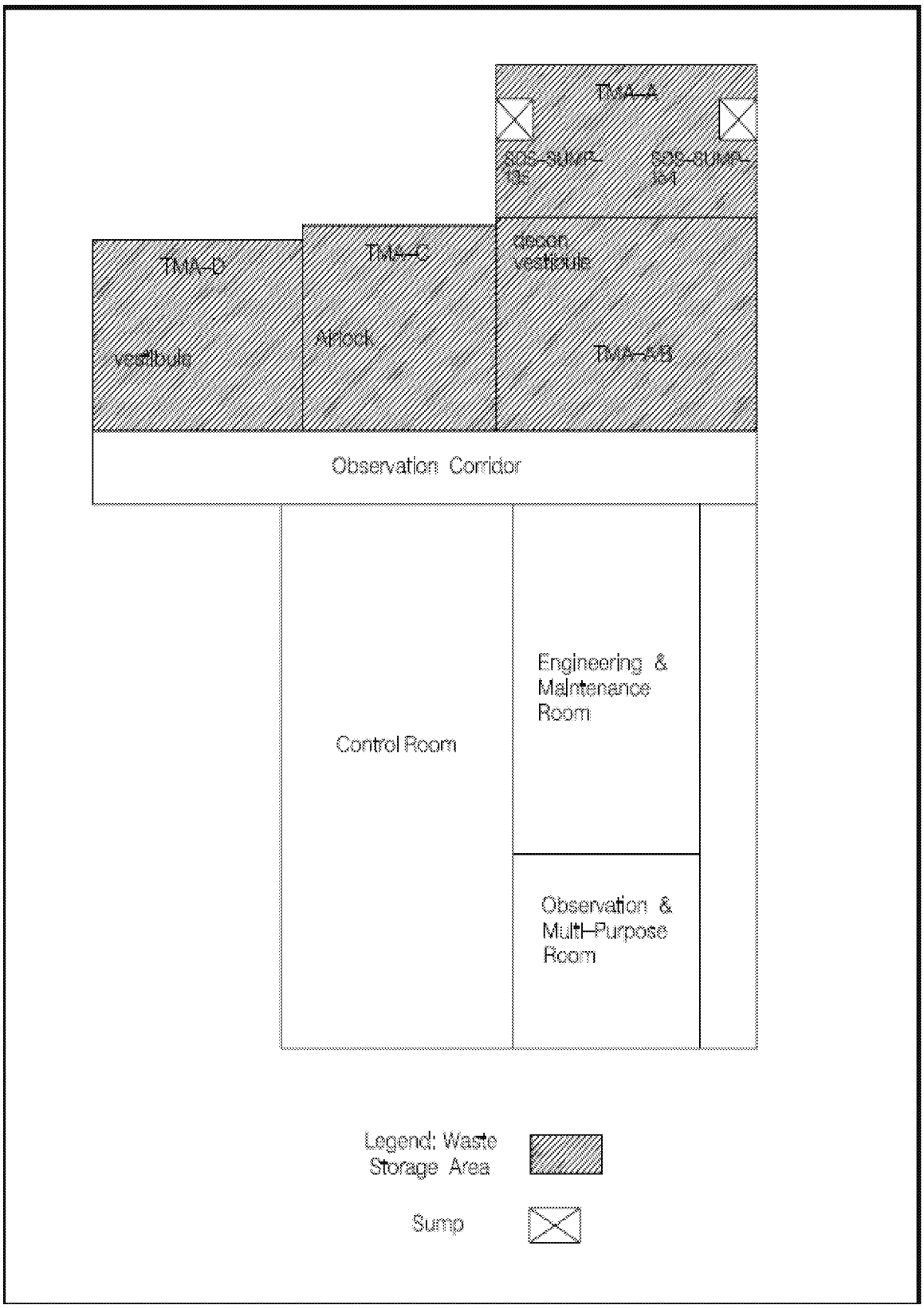


Figure 3-3: Permitted Storage at the WTF

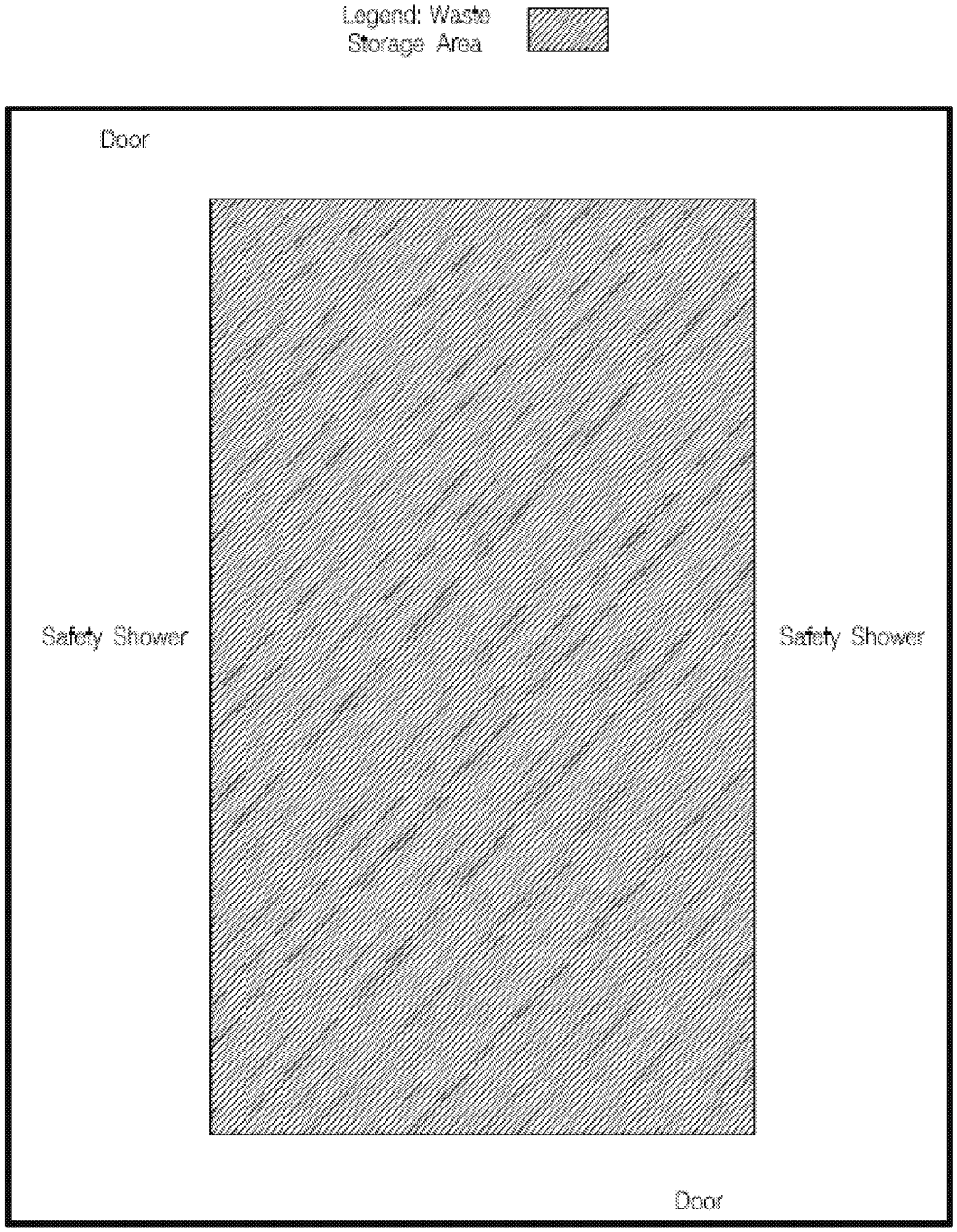


Figure 3-4: Permitted Storage at the UMC and LMC

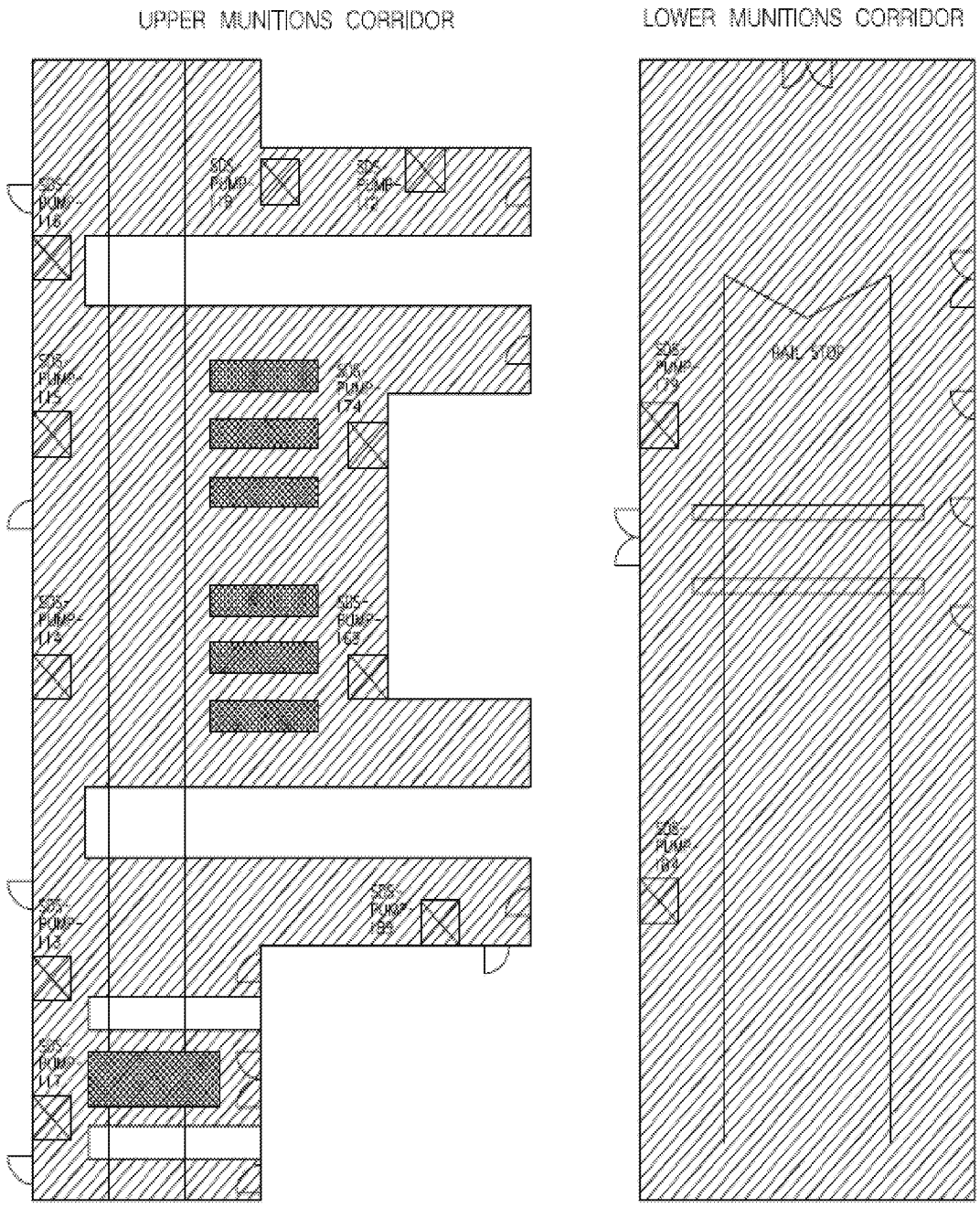
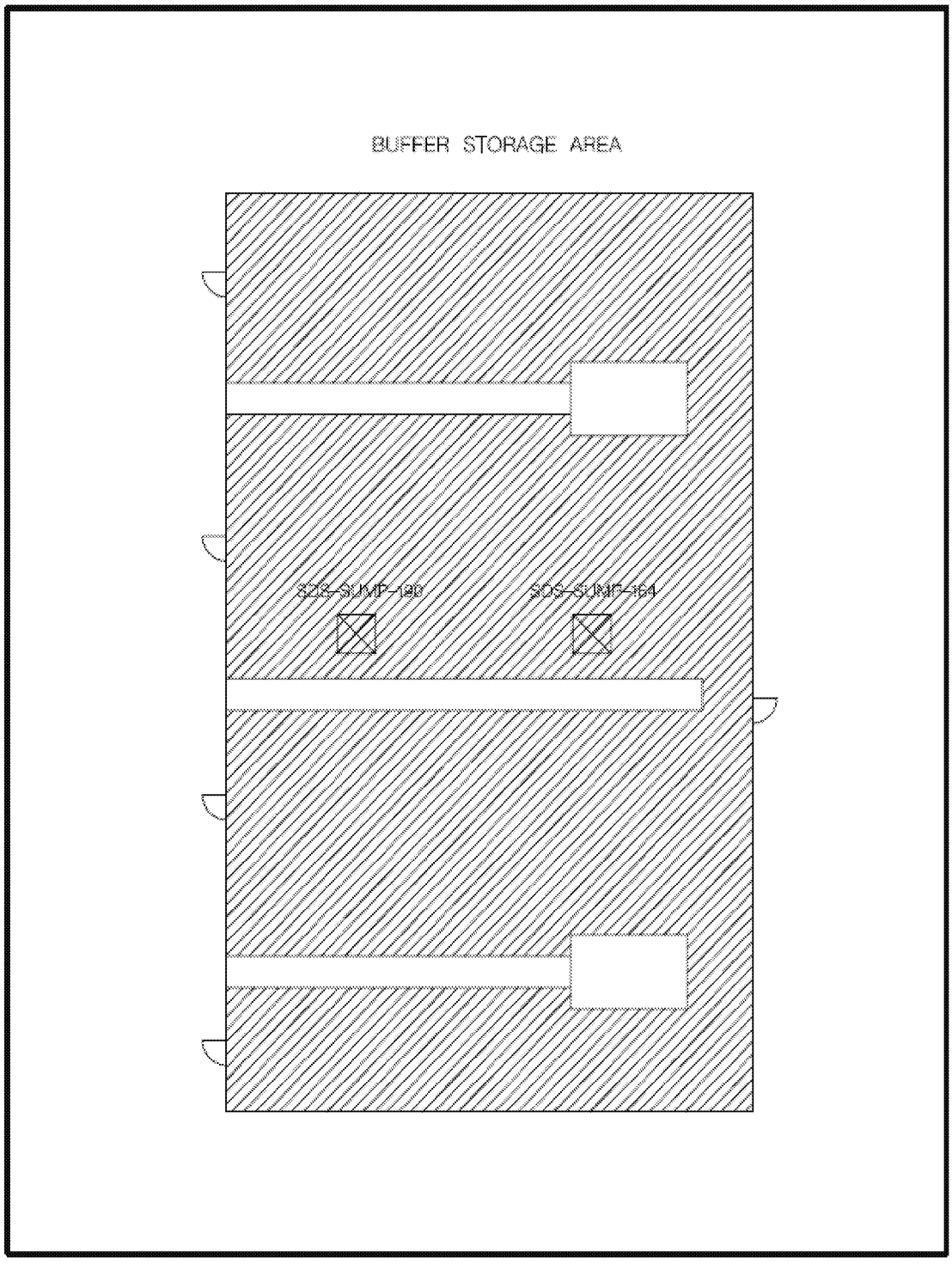


Figure 3-5: Permitted Storage in the BSA



MODULE IV: TANK SYSTEMS

TABLE OF CONTENTS **PAGE**

IV.A. PERMITTED AND PROHIBITED WASTE IDENTIFICATION 2
IV.B. TANK SYSTEM DESIGN AND CONSTRUCTION 2
IV.C. TANK SYSTEM INSTALLATION 3
IV.D. GENERAL OPERATING REQUIREMENTS 6
IV.E. AGENT COLLECTION TANK SYSTEM OPERATING CONDITIONS 6
IV.F. SPENT DECONTAMINATION HOLDING TANK SYSTEM OPERATING CONDITIONS 6
IV.G. BRINE SURGE TANK SYSTEM OPERATING CONDITIONS 7
IV.H. BRINE TREATMENT SYSTEM OPERATING CONDITIONS 7
IV.I. OPERATING PROCEDURES FOR PRIMARY CONTAINMENT SUMPS 8
IV.J. OPERATING PROCEDURES FOR SECONDARY CONTAINMENT SUMPS 9
IV.K. RESPONSE TO LEAKS OR SPILLS 10
IV.L. INSPECTION SCHEDULES AND PROCEDURES 11
IV.M. RECORDKEEPING AND REPORTING 12
IV.N. CLOSURE 13
IV.O. SPECIAL TANK PROVISIONS FOR INCOMPATIBLE WASTES 14

LIST OF TABLES **PAGE**

Table 4-1: Hazardous Waste Storage Tank Systems Permitted for Use During Shakedown Periods I and II, Surrogate and Chemical Agent Trial Burns and Normal Chemical Agent Operations 15
Table 4-2: Hazardous Waste Primary Containment Sump Systems 17
Table 4-3: Hazardous Waste Secondary Containment Sumps Systems 19
Table 4-4: Sump Systems Design Standards 20

MODULE IV: TANK SYSTEMS

This Module describes the tank systems at the ANCDF. There are four permitted tank systems at the ANCDF site. These four tank systems (listed in Table 4-1) include the following: Agent Collection Tank System and Spent Decontamination Holding Tank System, Brine Surge Tank System, and Brine Treatment System. A tank system generally consists of holding tanks and/or surge tanks, containment sumps or trenches, pumps, associated piping, and any ancillary equipment.

IV.A. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

1. Subject to the terms of this Permit, the Permittee shall store only the specified chemical agent or hazardous wastes in the specified tank systems identified in Tables 4-1 and 4-2 during the shakedown, trial burn, and post-trial burn periods for chemical agents as detailed in Module VI.
2. Subject to the terms of this Permit, the Permittee shall store only the specified chemical agent or hazardous wastes in the hazardous waste tank systems identified in Tables 4-1 and 4-2 during normal operations detailed in Module VII.
3. The Permittee is prohibited from storing chemical agent or hazardous wastes not listed in Table 4-1 in the hazardous waste tank systems listed in Tables 4-1 and 4-2 except as identified in Condition I.A.

IV.B. TANK SYSTEM DESIGN AND CONSTRUCTION

1. The Permittee shall maintain the Agent Collection Tank System (ACS-TANK-101 and ACS-TANK-102), Spent Decontamination Holding Tank System (SDS-TANK-101, SDS-TANK-102, and SDS-TANK-103), Brine Surge Tank System (BRA-TANK-101, BRA-TANK-102), and the Brine Treatment System (TWS-TANK-900, TWS-TANK-901, TWS-TANK-902, TWS-TANK-903, WPTK-900, WPTK-901, WPTK-902, BRA-FILT-902, BRA-FILT-903, BRA-FILT-904, BRA-FILT-905, BRA-FILT-906, and BRA-FILT-907) as specified in:
   a. All applicable drawings in III Appendix D-3 of the ANCDF Application;
   b. The applicable specifications referenced in Section III D-4 and III Appendix D-3-3 of the Application.
2. The Permittee shall maintain the primary containment and secondary containment sump systems identified in Tables 4-2 and 4-3 as specified in:
   a. All applicable drawings in Attachment D of the ANCDF Application;
   b. The applicable specifications found in III Appendix D-3-3 of the Application; and

c. Table 4-4.

3. The Permittee shall provide the external corrosion protection for the tank systems identified in Tables 4-1, 4-2, and 4-3 using the methods in III Appendix D-3-3 of the Application.

4. The Permittee shall not install any altered hazardous waste tank system until such time that the Department has:

   a. Received certification from a qualified professional engineer, that attests to the structural integrity and the suitability of the altered tank system for handling the specified chemical agent or hazardous waste IAW AAC 335-14-5-.10.;

   b. Approved the design and specifications of the altered tank system; and

   c. Received and approved a permit modification IAW AAC 335-14-8-.04.

IV.C. TANK SYSTEM INSTALLATION

1. The Permittee shall maintain the following installation documentation on file at the ANAD/ANCDF facility until such time that the tank system is certified closed IAW Condition II.J.:

   a. A written certification from a qualified professional engineer attesting that proper installation procedures were used for each tank system listed in Tables 4-1 and 4-2. The tank system installation inspection and subsequent written certification, shall consider, but not be limited to, the following tank system installation documentation:

      i. Field installation report with date of installation;

      ii. Approved welding procedures;

      iii. Welder qualifications and certifications;

      iv. Hydro-test reports IAW the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII, Division 1;

      v. Tester credentials;

      vi. Field inspector credentials;

      vii. Field inspection reports;

      viii. Field waiver reports; and

      ix. Non-compliance reports and corrective action (including field waiver reports) and repair reports.

   b. A written certification from a qualified professional engineer attesting that proper installation procedures were used. The tank system installation

certification documentation submitted to the Department for the Agent Collection Tank System (ACS-TANK-101/102) and Spent Decontamination Holding Tank System (SDS-TANK-101/102/103), shall include, but not be limited to, the following manufacturing design, fabrication, and testing documentation:

i. Shop drawings with dimensional and capacity data;

ii. Vessel wall thickness and nozzle reinforcement calculations;

iii. Vessel structural support calculations;

iv. Approved welding procedures;

v. Welder qualifications and certifications;

vi. Materiel reports and mill certifications;

vii. Results of X-ray testing;

viii. Tester credential;

ix. Non-compliance reports and corrective action;

x. Hydrotest reports;

xi. ASME code data report;

xii. Shop inspection reports; and

xiii. Shop inspector credentials.

c. A written certification from a qualified professional engineer attesting that proper installation procedures were used. The tank system installation certification documentation submitted to the Department for the Brine Surge Tanks (BRA-TANK-101 and BRA-TANK-102) shall include, but not be limited to, the following manufacturing design, fabrication, and testing documentation:

i. Shop drawings with dimensional and capacity data;

ii. Design calculations, including seismic and wind loading;

iii. Approved welding procedures;

iv. Welder qualifications and certifications;

v. Materiel reports and mill certifications;

vi. Results of non-destructive examinations;

vii. Qualifications of NDE inspectors;

viii. Non-compliance report and corrective action;

ix. Leak test report;

x. Shop inspection reports; and

xi. Shop inspector credentials.

d. A written certification from a qualified professional engineer attesting that proper installation procedures were used. The tank system installation certification documentation submitted to the Department for the Brine Treatment System Tanks (TWS-TANK-900, TWS-TANK-901, TWS-TANK-902, TWS-TANK-903, WPTK-900, WPTK-901, WPTK-902, BRA-FILT-902, BRA-FILT-903, BRA-FILT-904, BRA-FILT-905, BRA-FILT-906, and BRA-FILT-907) shall include, but not be limited to, the following manufacturing design, fabrication, and testing documentation:

i. Shop drawings with dimensional and capacity data;

ii. Design calculations, including seismic and wind loading;

iii. Approved welding procedures;

iv. Welder qualifications and certifications;

v. Materiel reports and mill certifications;

vi. Results of non-destructive examinations;

vii. Qualifications of NDE inspectors;

viii. Non-compliance report and corrective action;

ix. Leak test report;

x. Shop inspection reports; and

xi. Shop inspector credentials.

e. A written certification from a qualified professional engineer attesting that proper installation procedures were used. The tank system installation certification documentation submitted to the department for the primary containment system sumps listed in Table 4-2 shall include, but not be limited to, the following manufacturing design, fabrication, and testing documentation:

i. Shop drawings with dimensional and capacity data;

ii. Approved welding procedures;

iii. Materiel reports and mill certifications;

iv. Shop inspection reports; and

v. Shop inspector credentials.

2. The Permittee shall provide the installation documentation by certified mail, express mail, or hand delivery to the Department within 15 calendar days upon written request.

IV.D. GENERAL OPERATING REQUIREMENTS

1. The Permittee shall not place chemical agent, hazardous wastes, treatment reagents, or other materials in the tank system(s) if they could cause the tank system(s) to rupture, leak, corrode, or otherwise fail.
2. The Permittee shall operate the tank systems to prevent spills and overflows using the procedures and equipment described in Section III D-4 of the ANCDF Application.
3. The Permittee shall install tank level transmitters indicating an alarm at a high-high level corresponding to the maximum allowable liquid height given in Table 4-1.
4. The Permittee shall install primary containment and secondary containment level transmitters for the sumps listed in Tables 4-2 and 4-3 that shall indicate and send alarms to the CON at a low and high level.
5. The Permittee shall ensure that each tank is clearly marked with a description of its contents, the quantity of each chemical agent or hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record as specified in AAC 335-14-9-.05(1).

IV.E. AGENT COLLECTION TANK SYSTEM OPERATING CONDITIONS

1. The Agent Collection Tank system consists of the agent holding tank (ACS-TANK-102), agent surge tank (ACS-TANK-101), agent tank secondary containment sump (MDB-SUMP-151), pumps (ACS-PUMP-102/201), associated piping, and ancillary equipment.

IV.F. SPENT DECONTAMINATION HOLDING TANK SYSTEM OPERATING CONDITIONS

1. The Spent Decontamination Holding Tank System consists of three spent decontamination holding tanks (SDS-TANK-101/102/103), primary containment sump (as listed in Table 4-2), pumps (SDS-PUMP-271/172), trenches, associated piping, and ancillary equipment.

2. The Permittee shall maintain a minimum of one Spent Decontamination Holding Tank (either SDS-TANK-101, 102, or 103) empty during agent processing at the ANCDF.3. The Permittee may utilize the empty tank specified in Condition IV.F.2. in the event of an agent waste spill (i.e., Agent Collection Tank failure, Spent Decontamination Tank failure, munition overpack failure, etc.).

4. Upon completion of munitions and ton container processing according to Section III.D of the Application, the Permittee may utilize the empty SDS tank specified in Condition IV.F.2 in conjunction with the other two tanks.

5. The Permittee shall not process any munitions which have not passed the Explosive Containment Vestibule in the munition processing line at the time of an agent waste spill until such time that the circumstance(s) which resulted in the waste spill has been rectified and a minimum of one Spent Decontamination Holding Tank is empty as specified in Condition IV.F.2.

6. The Permittee shall characterize the waste in the Spent Decontamination Holding Tank System IAW the Waste Analysis Plan (see Section III C-2 of the Application).

IV.G. BRINE SURGE TANK SYSTEM OPERATING CONDITIONS

1. The Brine Surge System consists of two Brine Surge Tanks (BRA-TANK-101/, BRA-Tank-102), secondary containment sump, vault, pumps, associated piping, and ancillary equipment.

2. The Permittee shall begin the procedure to switch waste feed from the brine surge tank receiving waste to the empty brine surge tank when the receiving tank's high level is reached.

3. The Permittee shall sample and analyze the waste in the Brine Surge System IAW the Waste Analysis Plan (see Section III C-2 of the Application).

IV.H. BRINE TREATMENT SYSTEM OPERATING CONDITIONS

1. The Brine Treatment System consists of four Treated Water Storage Tanks (TWS-TANK-900, TWS-TANK-901, TWS-TANK-902, and TWS-TANK-903), three Chelating Resin Columns (WPTK-900, WPTK-901, and WPTK-902), six filter vessels (BRA-FILT-902, BRA-FILT-903, BRA-FILT-904, BRA-FILT-905, BRA-FILT-906, and BRA-FILT-907) secondary containment sump, pumps, associated piping, and ancillary equipment.

2. The Permittee shall sample and analyze the waste in the Brine Surge System IAW the Waste Analysis Plan (see Section C-2 of the ANCDF Application).

3. The Permittee shall be required to minimize accumulation of moisture within the interstitial space of the Treated Water Storage Tanks for the Brine Treatment

System. Methods employed for this purpose must include the ability to limit accumulation, and should liquid be identified within the interstitial space, an analytical method (such as pH, alkalinity, chlorine levels, etc.) must be available to verify the liquid is not a result of a leak of the primary vessel.

IV.I. OPERATING PROCEDURES FOR PRIMARY CONTAINMENT SUMPS

1. The primary sump system shall consist of the sumps listed in Table 4-2.
2. The Permittee shall operate the primary sump system IAW Section III D-4 of the ANCDF Application.
3. Operation of the sump level indicators and interstitial probes shall be inspected and tested per the Inspection Schedule (see Section III F-2 of the ANCDF Application).
4. The Permittee shall use a boroscope to visually inspect the metal sump liner and underlying concrete (or remove the metal sump) annually and before commencement of each chemical agent campaign to visually inspect for any signs of deterioration of the coating, leakage or corrosion of the metal sump, or cracking of the concrete liner. The use of the boroscope is contingent upon obtaining clear photographs documenting the condition of the sump and underlying concrete.
5. All primary sumps shall have a dedicated sump pump and sump level indicators. All liquids evacuated from these sumps shall be pumped to the Spent Decontamination Tanks.
6. The Permittee shall maintain a liquid level in any of the primary containment sumps no higher than the low level assigned in Table 4-2.
7. All primary sumps may be used to treat agent and agent contaminated hazardous wastes with decontamination solution before they are pumped to the Spent Decontamination Holding Tanks. Wastes that have been treated shall not remain in these sumps for more than 24 hours above the allowable level described in Condition IV.G.6.
8. As part of every chemical agent changeover, primary sumps in rooms where agent was processed shall be rinsed with decontamination solution to remove residual chemical agent after room decontamination activities are complete.
9. The permittee may exceed the capacity of the sumps identified in Table 4-2 during a toxic area entry, in the event that the sump pump ceases to work and the subsequent decontamination of entrants causes the sump capacity to be exceeded and the decontamination is necessary to ensure a safe exit from the room or in the event of a failure of any of the Spent Decontamination Holding Tanks or Agent Collection Tanks. If this occurs, the Permittee shall record in the Operating

Record the circumstances that caused the overfill and shall remove the waste as soon as it can be safely accomplished.

10. The permittee may store waste in the sumps listed in Table 4-2 for greater than 24 hours if a toxic area entry necessary to support waste removal cannot be initiated or completed for any of the following reasons:

    a. Agent concentrations exceed the authorized level for the PPE to be worn.

    b. A breach or tear occurs in a DPE suit.

    c. A loss of communications occurs between the parties involved in an entry.

    d. The room temperature is too high to allow for an entry.

    e. Any of the participants in an entry suffer from an illness or heat stress.

    f. A loss of Life Support System (LSS) air occurs.

    g. A loss of either utility power or the Heating, Ventilation, and Air Conditioning (HVAC) system occurs.

    h. Explosive components are present, endanger worker safety, and cannot be removed so as to allow for removal of waste from the sump within 24 hours.

    i. For those instances where waste is not removed from the sumps within 24 hours, the permittee shall record in the Operating Record the circumstances that prevented removal within 24 hours and shall remove the waste as soon as it can be safely accomplished. In addition, the onsite ADEM compliance staff will be notified of the condition in a timely manner.

    j. Should a condition listed above occur, all maintenance activities will be postponed until they can be performed safely.

    k. Severe weather restrictions.

IV.J. OPERATING PROCEDURES FOR SECONDARY CONTAINMENT SUMPS

1. The secondary containment sumps shall consist of all sumps listed in Table 4-3.

2. The Permittee shall operate the secondary containment sumps IAW Section III D-4 of the Application.

3. The Permittee shall consider any materials or liquids detected in the secondary sumps of the Agent Collection Tank System and Spent Decontamination Holding Tank System to be a hazardous waste until the Permittee has sampled and analyzed the materials or liquids for chemical agent, TCLP metals, TCLP organics and any other suspected hazardous waste or hazardous waste constituents, IAW the methods of the Waste Analysis Plan (see Section III C-2 of

the ANCDF Application) of this Permit. The Permittee shall consider any materials or liquid in the secondary containment for the Brine Surge Tank System to be non-hazardous unless a leak has been detected from the tank system. If a leak has been detected, the liquid will be considered hazardous waste until analyzed for chemical agent, TCLP metals, TCLP organics, and any other suspected hazardous constituents. Liquids in the secondary containment for the brine surge tank system shall be analyzed for pH and sheen prior to discharge as stormwater.

4. The Permittee shall send those liquids that are determined to be hazardous waste and contain chemical agent to a Spent Decontamination Holding Tank. For materials or liquids that are sampled and analyzed and found to be chemical agent free and not to be hazardous waste, they shall be managed as not being hazardous waste but must be evacuated from the sump.

5. The Permittee shall remove all materials or liquids in the secondary sumps by either a vacuum truck or dedicated sump pump. The dedicated sump pump system may not leave a residual liquid depth of more than 3 inches. All sumps evacuated using a vacuum truck shall not leave pumpable residual liquids in the sump. The low level alarm will activate when the level from the bottom of the sump reaches 3 inches.

6. Operation of the sump level indicators shall be visually inspected per the Inspection Schedule (see Section III F-2 of the Application) and shall be tested upon installation, annually, and between every chemical agent change as specified in Section III F-2 of the Application.

IV.K. RESPONSE TO LEAKS OR SPILLS

1. In the event of a leak or a spill from a hazardous waste tank system, or if a hazardous waste system becomes unfit for continued use, the Permittee shall remove the system from service immediately and complete the following actions:

   a. Stop the flow of chemical agent or hazardous waste into the system and inspect the system to determine the cause of the release.

   b. Remove waste and accumulated precipitation from the system within 24 hours of the detection of the leak to prevent further release and allow inspection and repair of the system. If the Permittee finds that it shall be impossible to meet this time period, the Permittee shall notify the Department and demonstrate that the longer time period is required.

   c. If the collected material is a hazardous waste and contains chemical agent, it shall be managed IAW all applicable requirements of AAC 335-14-3, 335-14-4, and 335-14-5.

   d. Contain visible releases to the environment. The Permittee shall immediately conduct a visual inspection of all releases to the environment

and based on that inspection: (1) prevent further migration of the leak or spill to soils or surface water and (2) remove and properly dispose of any visible contamination of the soil or surface water.

e. Close the system IAW the Closure Plan specified in Section III I of the Application unless the following actions are taken:

i. For a release caused by a spill that has not damaged the integrity of the system, the Permittee shall remove the released waste and make any necessary repairs to fully restore the integrity of the system before returning the tank system to service.

ii. For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee shall repair the primary system prior to returning it to service.

iii. For a release to the environment caused by a leak from an aboveground portion of the ancillary equipment that does not have secondary containment, the Permittee shall repair the tank system or ancillary equipment before returning it to service.

iv. If the Permittee replaces a component of the tank system to eliminate the leak, that component must satisfy the requirements for new tank systems or components in AAC 335-14-5-.10.

2. For all major repairs to eliminate leaks or restore the integrity of the tank system, the Permittee shall obtain a certification by a qualified professional engineer that the repaired system is capable of handling chemical agent or hazardous wastes without release for the intended life of the system before returning the system to service. Examples of major repairs are: installation of an internal liner; repair of a ruptured tank; or, repair or replacement of a secondary containment vault.

3. The Permittee shall submit to the Department all certifications of major repairs to correct leaks within 7 calendar days from returning the hazardous waste tank systems to use.

IV.L. INSPECTION SCHEDULES AND PROCEDURES

1. The Permittee shall inspect the hazardous waste tank systems, IAW the Inspection Schedule (see Section III F-2 of the Application).

2. The Permittee shall inspect the overfill controls, IAW the Inspection Schedule (see Section III F-2 of the Application).

IV.M. RECORDKEEPING AND REPORTING

1. The Permittee shall verbally report to the Department within 24 hours of detection, when a leak or spill occurs from a hazardous waste tank system to the environment, IAW Condition I.E.17.

2. Releases from a hazardous waste tank system that are contained within a secondary containment system shall be reported as required in Condition IV.L.1. and shall be recorded in the Operating Record required by Condition II.I.1.

3. In addition to complying with the requirements of Condition I.E.17.b., within 30 calendar days of detecting a release to the environment from a hazardous waste tank system, the Permittee shall submit a written report detailing, at a minimum, the following to the Department:

   a. Likely route of migration of the release;

   b. Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);

   c. Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it shall be impossible to meet this time period, the Permittee shall provide the Department with a schedule of when the results shall be available. This schedule must be provided before the required 30 calendar day submittal period expires;

   d. Proximity of downgradient drinking water, surface water, and populated areas; and

   e. Description of response actions taken or planned.

4. The Permittee shall obtain, and keep on file at the ANAD facility, the written statements by those persons required to certify the design and installation of the hazardous waste tank systems as specified in Condition IV.C.4. until such time that the tank system is certified closed IAW Condition II.J.7.

5. The Permittee shall keep on file at the ANAD facility the written hazardous waste tank system assessments IAW AAC 335-14-5-.10 of each hazardous waste tank system's integrity and suitability for handling chemical agent and hazardous waste, until such time that the hazardous waste tank system is certified closed IAW Condition II.J.7.

6. The Permittee shall maintain at the ANAD facility a record of the results of leak tests and integrity tests conducted, IAW Conditions IV.C.4. or IV.J.2.

7. In the event that a hazardous waste tank (including primary containment sumps) exceeds the maximum allowable capacity designated for that tank in Tables 4-1 and 4-2, the Permittee shall document in the Operating Record, as required by Condition II.I.1., the following information:

   a. The date and time of occurrence;

b. Identify the tank by the identification number specified in Tables 4-1 and 4-2;

c. Indicate if any other available tank storage volume, within the system, is available and identify such tank by the tank identification number, specified in Tables 4-1 or 4-2;

d. Indicate if the tank system automatically switched the feed or if an operator manually switched the feed from the high level tank to the tank with the available storage;

e. If no additional storage capacity was available within the storage system, indicate if the associated collection and/or treatment activities were automatically cut-off;

f. Indicate if the high-high level tank(s) intake valves were automatically closed;

g. Indicate if any associated incinerator AWFCO interlocks were required. Identify the required interlock and whether the interlocks were successfully activated; and

h. Describe the operating control procedures that allowed the tank system to reach the high-high level volume (e.g., why the operator was not successful in managing the waste within the high level volume (i.e., the working capacity)).

8. The Permittee shall document compliance with Conditions IV.L.2. and IV.L.3. and place this documentation in the operating record for the ANCDF site.

9. The Permittee shall document and record the results of each Spent Decontamination Holding Tank System waste analysis required by Condition IV.F.5. in the Operating Record specified in Condition II.I.1.

10. The Permittee shall document in the Operating Record, specified in Condition II.I.1., the results of each Brine Surge Tank System waste analysis and any subsequent treatment required by Condition IV.G.3.

11. The permittee shall document in the Operating Record, specified in Condition II.I.1., the results of each Brine Treatment System waste analysis and any subsequent treatment required by Condition IV.H.2.

IV.N. CLOSURE

1. The Permittee shall close the hazardous waste tank systems listed in Tables 4-1 and 4-2 IAW the Closure Plan, included as Section III I of the Application.

2. If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated, at closure, the Permittee shall comply with the Condition II.J.9.

IV.O. SPECIAL TANK PROVISIONS FOR INCOMPATIBLE WASTES

1. The Permittee shall not place chemical agent or hazardous waste in a tank system that has not been decontaminated and that previously held a different chemical agent and/or incompatible material.

2. The Permittee shall only place the type of chemical agent (e.g., GB, VX, HD, or HT) specified for the particular campaign in the tank systems during any one chemical agent campaign.

3. Prior to initiating a campaign with a new chemical agent, the Permittee shall rinse the ACS, Brine Surge Tank, and Brine Treatment Systems with the appropriate decontamination solution to remove chemical agent residuals. The decontamination solution generated from these activities shall be collected in the SDS tanks and treated in the Liquid Incinerator secondary combustion chamber IAW Condition VI.B. of this Permit during shakedown, trial burn, and post trial burn and in Condition VII.B. of this Permit during normal operations. If no agent is detected above WCL in BRA-TANK-101/102 at the end of the campaign, rinsing is not required.

Table 4-1: Hazardous Waste Storage Tank Systems Permitted for Use During Shakedown Periods I and II, Surrogate and Chemical Agent Trial Burns and Normal Chemical Agent Operations

Tank I.D. Number	Maximum Allowable Capacity (gallons)	Maximum Allowable Liquid Height[1] (feet)	Dimensions of Tank (feet)	Secondary Containment Required (gallons)	Permitted Hazardous Waste Activity	Permitted Hazardous Waste Codes
ACS-TANK-101	582	7.5	3.5 Diameter 8.0 Height	660	Storage of drained chemical agent	D003 to D011, D022, D028, and D043
ACS-TANK-102	1,130	8.75	5.0 Diameter 10.0 Height	1,300		
SDS-TANK-101	2,168	9.25	6.0 Diameter 10.25 Height	2,379	Storage of spent decontamination and lab waste	D004 to D011, D022, D028, D030 and D043
SDS-TANK-102						
SDS-TANK-103						
BRA-TANK-101	42,629	18.25	20.0 Diameter 20.0 Height	47,000	Liquids from incinerator pollution abatement systems	D004 to D011, D022, D028, D030 and D043
BRA-TANK-102						
TWS-TANK-900	33,970	29.5	14 Diameter 30 Height	None. Tanks are double walled tanks with interstitial space monitoring	Storage of treated liquids from brine treatment system	D004 to D011, D022, D028, D030 and D043
TWS-TANK-901						
TWS-TANK-902						
TWS-TANK-903						
WPTK-900	962	7.25 (from bottom of tank)	5 Diameter 6 Height (tangent)	6867 gal. total secondary containment	Treatment of liquids from incinerator pollution abatement systems	D004 to D011, D022, D028, D030 and D043
WPTK-901						
WPTK-902						

BRA-FILT-902	7	2	Dia=10”, Ht=55”	6867 gal. total secondary containment	Treatment of liquids from incinerator pollution abatement systems	D004 to D011, D022, D028, D030 and D043
BRA-FILT-903	7	2	Dia=10”, Ht=55”			
BRA-FILT-904	7	2	Dia=10”, Ht=55”			
BRA-FILT-905	7	2	Dia=10”, Ht=55”			
BRA-FILT-906	21	3	Dia=14”, Ht=66”			
BRA-FILT-907	21	3	Dia=14”, Ht=66”			

Footnote:
(1) High-high level alarm.

Table 4-2: Hazardous Waste Primary Containment Sump Systems

Sump I.D. Number[1,2]	Maximum Sump Capacity (gallons)	Dimensions of Sump (feet)	Maximum Allowable Liquid Height[3] (inches)	Secondary Containment Volume (gallons)	Location Reference			
					RCRA Drawing Reference	Floor	Location	Room Name/ Number[4]
SDS-SUMP-106	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	H-6	ECR/05-212
SDS-SUMP-107	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	C-6	ECR/05-211
SDS-SUMP-108	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	J-10	ECV/04-213
SDS-SUMP-109	89	2.3x2.3x2.25	3.0	134	AN-1-G-508	2	D-10	ECV/04-213
SDS-SUMP-110	89	2.3x2.3x2.25	3.0	134	AN-1-G-508	2	B.1-10	ECV/04-213
SDS-SUMP-112	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	B.1-7	M-CR/05-210
SDS-SUMP-113	89	2.3x2.3x2.25	3.0	134	AN-G-1-509	2	M-3	M-CR/05-210
SDS-SUMP-114	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	H-3	M-CR/05-210
SDS-SUMP-115	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	D-3	M-CR/05-210
SDS-SUMP-116	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	B.1-3	M-CR/05-210
SDS-SUMP-117	89	2.3x2.3x2.25	3.0	134	AN-G-1-509	2	N-3	M-CR/05-210
SDS-SUMP-118	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	B.1-5	M-CR/05-210
SDS-SUMP-124	89	2.3x2.3x2.25	3.0	134	AN-G-1-510	2	B.1-4	M-CR-AL/06-221*
SDS-SUMP-125	89	2.3x2.3x2.25	3.0	134	AN-1-G-507	1P	L-5	AL/06-169*
SDS-SUMP-126	89	2.3x2.3x2.25	3.0	134	AN-G-1-511	2	L-8	MPB-AL/06-217
SDS-SUMP-134	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	T-6	M-CR-AL/06-164
SDS-SUMP-135	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	L-3	TMA/12-120
SDS-SUMP-145	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	N-11	MPB/10-205
SDS-SUMP-146	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	N-8	MPB/10-205
SDS-SUMP-147	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	L-11	MPB/10-205
SDS-SUMP-148	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	L-8	MPB/10-205

Table 4-2: Hazardous Waste Primary Containment Sump Systems (Continued)

Sump I.D. Number[1,2]	Maximum Sump Capacity (gallons)	Dimensions of Sump (feet)	Maximum Allowable Liquid Height[3] (inches)	Secondary Containment Volume (gallons)	Location Reference			
					RCRA Drawing Reference	Floor	Location	Room Name/ Number[4]
SDS-SUMP-149	89	2.3x2.3x2.25	3.0	134	AN-G-1-509	2	L-6	MPB/10-205
SDS-SUMP-153	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	P-5	DECON AREA/12-118
SDS-SUMP-154	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	L-6	TMA/12-120
SDS-SUMP-164	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	M-11	BSA/17-146
SDS-SUMP-168	89	2.3x2.3x2.25	3.0	134	AN-G-1-509	2	N-6	MPB/10-205
SDS-SUMP-169	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	H-6	M-CR/05-210
SDS-SUMP-174	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	D-6	M-CR/05-210
SDS-SUMP-175	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	M-11	MPB/10-205
SDS-SUMP-179	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	M-6	M-CR/05-153
SDS-SUMP-184	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	Q-6	M-CR/05-153
SDS-SUMP-189	89	2.3x2.3x2.25	3.0	134	AN-G-1-508	2	K-7	M-CR/05-210
SDS-SUMP-190	89	2.3x2.3x2.25	3.0	134	AN-1-G-505	1	M-9	BSA/17-146

Footnotes:
(1) Hazardous waste sumps (meeting the RCRA definition of a tank) must comply with all applicable hazardous waste tank system requirements (ADEM Admin. Code R. 335-14-5-.10).
(2) SDS = Spent Decontamination Solution
(3) Low-level alarm height. This is the level at which the sumps shall be maintained.
* Indicates location on platform level.

Abbreviations:
AL.....Airlock
DECON .....Decontamination
ECV .....Explosive Containment Room Vestibule
M-CR.....Munition Corridor
MPB-AL.....Munitions Processing Bay Airlock
TMA .....Toxic Maintenance Area
BSA .....1st Floor Buffer Storage Area
ECR .....Explosive Containment Room
I.D. .....identification
M-CR-AL .....Munitions Corridor Airlock
RCRA .....Resource Conservation and Recovery Act

Table 4-3: Hazardous Waste Secondary Containment Sumps Systems

Sump I.D. Number	Maximum Allowable Capacity (gallons)	Dimensions of Sump (feet)	Location Reference					
			Drawing Column - Row	Floor	Location	Room Name/ Number	Comments	Purpose
SDS-SUMP-151	511	4.42x4.42x3.5	AN-1-G-504	1	J-8	TOX/11-141	In Pit	2,072 gallons Secondary Containment
SDS-SUMP-150	85	2.25x2.25x2.25	AN-1-G-504	1	H-7	SDS/21-140	In Pit	3,060-gallons Secondary Containment
BRA-SUMP-103	85	2.25x2.25x2.25	AN-2-D-501	-	Within diked area of Brine Surge Tanks	Outside of PUB	Vault	48,862-gallons Secondary Containment
BRA-SUMP-104	85	2.25x2.25.2.25	AN-2-D-503	1	PUB	PUB Interior	-	6,867 gallons Secondary Containment

Abbreviations:
I.D. ..... identification
SDS ..... spent decontamination solution
BRA brine reduction area
PUB ..... Process and Utility Building
TOX ..... Toxic Cubicle

Table 4-4: Sump Systems Design Standards

Sump And Trench Design Standards[1]	Sump Systems			
	Primary Containment Sumps	**Secondary Containment Sumps of the TOX and SDS Room**	**Vault Outside of PUB Within Diked Area of Brine Surge Tanks**	**Secondary Containment Sump Inside PUB**
PRIMARY CONTAINMENT:				
Construction Material:	Welded carbon steel	See below	See below	See below
Shell Thickness	3/16 inch	See below	See below	See below
Grating Material	Reinforced fiberglass	See below	See below	See below
Protective Coating	Chemical resistant epoxy coating	See below	See below	See below
SECONDARY CONTAINMENT:				
Construction Material	Concrete	Concrete with embedded steel lining	Concrete	Concrete
Grating Material	See above	Reinforced Fiberglass	Galvanized Steel	Reinforced Fiberglass
Thickness	6 inches	6 inches	6 inches	6 inches
Protective Coating	Chemical resistant epoxy coating	Chemical resistant epoxy coating	Chemical resistant epoxy coating	Chemical resistant epoxy coating
LEAK DETECTION SYSTEM	Visually inspect manually, visually inspect by borescope, and by level indicator	Visually inspect and by level indicator	Visually inspect and by level indicator	Visually inspect and by level indicator

Footnote:
(1) Standards apply to trenches (for sump collection system designed with trench).

Abbreviations:
TOX.....Toxic Cubicle
SDS.....Spent Decontamination Solution
PUB .....Process and Utility Building

MODULE V: MISCELLANEOUS TREATMENT UNITS (SUBPART X)

TABLE OF CONTENTS **PAGE**

V.A. MISCELLANEOUS TREATMENT UNIT REQUIREMENTS 2
V.B. DESCRIPTION OF THERMAL TREATMENT UNITS 3
V.C. PERMITTED AND PROHIBITED WASTE IDENTIFICATION 4
V.D. THERMAL TREATMENT OPERATIONS 6
V.E. INSPECTION 18
V.F. GROUNDWATER MONITORING PROGRAM 19
V.G. AIR MONITORING 19
V.H. CLOSURE AND POST-CLOSURE PLAN 20

Table 5-1: FPI Conditions for Mustard and Conventional WMM(1) 22
Table 5-2: Systemization, Emissions Test, Post-Emissions Test, and Normal Operations Feed Rates for Mustard and Conventional WMM 23
Table 5-3: Metal and Chloride Feed Rates for Munitions and WMM Feed Events(1,2) .. 23

MODULE V: MISCELLANEOUS TREATMENT UNITS (SUBPART X)

V.A. MISCELLANEOUS TREATMENT UNIT REQUIREMENTS

1. This Module allows the thermal treatment of conventional waste military munitions (WMM) and chemical agent munitions, disassembled explosive components of WMM and chemical munitions, including hazardous energetic and energetic-contaminated wastes, and non-energetic contaminated wastes within permitted miscellaneous treatment units. Additionally, the units may be used to treat by-products from non-permitted activities such as test programs, Resource, Recovery, and/or Recycle (R3) Program, surveillance, emergency response operations including components described in Permit Condition V.C.5 as described in the Section IV of the facility permit application. The thermal treatment units described in this module are regulated under AAC 335-14-5-.24. The following units are permitted for thermal treatment of wastes:

    a. Open Burning (OB) Unit #1 – SWMU 16

    b. Open Detonation (OD) Unit – SWMU 17

    c. Static Detonation Chamber (SDC) – SWMU 70

2. All thermal treatment operations shall be accomplished by trained explosives personnel in accordance with Department of Defense (DOD) Standard Operating Procedures (SOPs), Sections III K-H, IV J-H, and IV-H of the facility permit application, and the conditions of this permit.

3. The Permittee shall maintain an operating record describing the thermal treatment activities. The record shall include the following information:

    a. Description and quantity [number and Net Explosive Weight (NEW)] of each hazardous waste munition, initiator, and donor received and treated in each tray fed into the SDC unit, each pan of the OB unit and each detonation pit for the OD unit. For processing operations in the SDC that are consistent (same type and number of munitions per event) within a processing day, one record is acceptable provided it captures the initial evaluation and time of each subsequent tray,

    b. All agent feed quantities associated with the SDC unit,

    c. The annual running total of the NEW of all energetics treated at the thermal treatment units,

    d. Date of thermal treatment,

e. Copies of all documents showing the disposition of residues transported from the thermal treatment units,

f. Current copies of all SOPs used at the thermal treatment units,

g. Meteorological conditions during each treatment (open burn or open detonation) as listed in Condition V.D of this permit,

h. All information to characterize waste including information to support Condition V.B of this permit,

i. Copies of all inspection records for each unit,

j. Copies of all employee training records in accordance with Sections III K-H, IV J-H, and IV H of the facility permit application,

k. All groundwater monitoring reports required by Permit Condition X.B.6.

l. For SDC unit operations, the date and time of all Feed Prohibitive Interlock (FPI) malfunctions including the cause, corrective action, and corrective measures taken to prevent recurrence of the incident. The Permittee shall also record all incidents of the FPI function failures including the corrective measures taken to correct the condition that caused the failure, and

m. For SDC unit operations, all monitoring equipment data and inspection records of monitoring equipment compiled under the conditions of this permit.

V.B. DESCRIPTION OF THERMAL TREATMENT UNITS

1. Open Burning (OB):

a. The Open Burning unit occupies approximately 17 acres in the northwestern corner of the Ammunition Storage Area (ASA) [also referred to as the Ammunition Limited Area (ALA)]. Treatment by OB may be conducted in ten burn pans within the designated open burn unit encompassing an area of soil approximately 400 feet by 800 feet. All burn pans shall be similarly constructed, as shown in Figure IV B-2 of the permit application. The general arrangement of the OB unit within the facility boundary is located in Figure IV.B-1 of the facility permit application. The general arrangement of the OB pans within the OB unit is shown in Figure IV.B-8 of the permit application. Photographs of the area layout and the burn pans are located in Figures IV.B-4 and IV.B-5 of the permit application.

b. The OB unit is dedicated to the thermal destruction of Hazard Class 1 explosives including propellants, WMM, and explosive-contaminated wastes. The OB unit may be used to treat wastes that are generated on-site by the facility or off-site by other DOD installations.

2. Open Detonation (OD):

a. The OD unit occupies approximately 51 acres in the northwestern corner of the ASA. Treatment by OD may be conducted within an approximate 900 feet by 300 feet area designated for digging of pits which are used for detonation stations. No more than 8 detonation pits shall be used during any detonation series. Detonation stations may be ignited electrically or non-electrically. Both above ground and buried detonations are allowed. The general arrangement of the OD unit within the facility boundary is located in Figure IV.B-1 of the permit application. Photographs of the detonation pit are located in Figure IV.B-6 and IV.B-7 of the permit application. A sediment retention basin for the control of run-off from the OD operations is located within the western OD unit boundary. Sediment removed from the basin may be reused within the OD unit boundary.

b. The OD unit is dedicated to the detonation of Hazard Class 1 explosives including WMM and explosive-contaminated wastes. The OD unit may be used to treat wastes that are generated on-site by the facility or off-site by other DOD installations.

3. Static Detonation Chamber (SDC)

a. The Static Detonation Chamber (SDC) is located on the west side of G block near Building 695 in the Chemical Limited Area (CLA) of ANAD. The footprint for the structure is approximately 70 x 100 feet. Treatment by SDC shall be conducted by loading ammunition trays which are conveyed into the SDC unit. No more than one feed tray may be loaded into the SDC per feed event. The general arrangement of the SDC facility is located in Figure III.K-5 of the Permit Application.

b. The SDC unit is dedicated to the detonation of chemical and/or WMM munitions which are either explosively or not-explosively configured and secondary waste generated by the SDC operations. The explosive capacity of the SDC unit shall not exceed 6.7 pounds (lbs) of explosive material, both mass and non-mass detonating. The SDC unit may be used to treat wastes that are generated on-site by the facility or off-site by other DOD installations.

V.C. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

1. The majority of WMM treated by OB, OD, and SDC at ANAD require disposal because the munition has exceeded its shelf life and the Designated Disposition Authority (DDA) has determined that it cannot be reused or recycled. These

military munitions become hazardous WMM when they are removed from the munitions storage igloos in accordance with the military munitions rule (AAC 335-14-7-.13).

2. WMM treated at the OB, OD, and SDC units may exhibit the reactivity (D003) hazardous waste characteristic as defined in ADEM Admin. Code R.335-14-2-.03(4) and include small arms ammunition (hazard class 1.4). In addition, these wastes may also exhibit the ignitability characteristic (D001), corrosivity (D002), and/or nine toxicity characteristics (D004, D005, D006, D007, D008, D009, D011, D030 or D039).

3. The wastes treated at the OB and OD units shall not contain pesticides, herbicides, dioxins, or polychlorinated biphenyls (PCBs). Conventional waste types and waste characteristics are detailed in Sections IV.C of the permit application. All WMM must be identified using the procedures in Section IV.C of the permit application. Only the Munitions Items Disposition Action System (MIDAS) classifications listed in Table IV.C-9 of the permit application may be treated by ANAD at the OB and OD units.

4. Thermal treatment of hazardous waste by means other than as specifically authorized by this permit is prohibited. Recovered liquid-filled rounds, chemical warfare material, components of recovered liquid filled rounds or chemical warfare material, and liquid agent-contaminated explosive components may be treated in the SDC, but are prohibited to be processed at the OB and OD units. No other agent munitions except those containing mustard may be treated at the SDC. Mustard contaminated waste types and waste characteristics are detailed in Section III.C of the permit application.

5. Items containing depleted uranium, either loaded or expended, are prohibited at all locations. Treatment of loaded munitions or components containing colored smokes, white phosphorous, red phosphorous, hexachlorethane, or riot control agents may also be treated at the SDC or during an emergency operation as determined by facility Quality Assurance Surveillance, Ammunition Specialists (QASAS) in accordance with Section IV D-3f(1) of the permit application.

6. Disassembled explosive components of chemical munitions may be processed by open/buried detonation once they have been verified agent free by monitoring in accordance with the Waste Analysis Plan in Section III.J of the facility permit application. If not verified agent free, these components may only be treated in the SDC.

7. The donor charge and placement geometry for OB and OD/BD thermal treatment operations shall be optimized to minimize the generation of unburned and un-detonated waste and residue. All re-burns and re-detonations shall be recorded in the operating record.

8. Under no circumstances shall the facility receive any materials originating from any chemical weapons stockpile other than Anniston Army Depot pursuant to the ***Code of Alabama 1975***, *§§ 22-30-C-1-4,**et. seq.**, as amended,* otherwise referred to as the "Chemical Weapons Destruction Limitation Act".

9. The SDC facility may receive recovered liquid-filled rounds, chemical warfare material or components of recovered liquid filled rounds or chemical warfare material recovered from off-site locations within the boundary of the State of Alabama only. Receipt of recovered items from outside the State of Alabama is prohibited.

V.D. THERMAL TREATMENT OPERATIONS

1. Open Burning (OB)
   a. Meteorological Restrictions

      The listed meteorological restrictions are applicable to open burning treatment operations. Treatment is allowed subject to the requirements of this permit under the following weather conditions:

      i. Less than a 50 percent chance of precipitation (including thunderstorms or electrical storms),

      ii. Average wind speed between 3 and 20 miles per hour,

      iii. Cloud cover less than 80 percent and ceilings greater than 2,000 feet, and

      iv. Wind direction which will not carry emissions over any publicly accessible area within one mile of the unit boundary.

   b. Other Restrictions

      i. Open burning operations are limited to the hours between 8:00am and 4:00pm Monday through Saturday, and

      ii. Open burning may be conducted in each pan no more than once per day

   c. Treatment Quantities and Daily Maximum Limits

      The following quantity of material may be treated at the OB unit, expressed as net explosive weight (NEW). NEW represents the combined explosives weight of all energetics contained in a munitions item and initiators. Explosive limits have been established for the OB unit and these limits shall not be exceeded at any time. The volume of WMM treated at the OB unit varies based on the disposal and demilitarization needs of DoD. The operating limits are as follows:

i. Open Burning (OB): Shall not exceed 2,000 pounds NEW per pan (total daily limit of 20,000 pounds NEW for ten open burn pans). Only one burn per pan is allowed in an operating day. Treatment of WMM on the ground is prohibited. Burn pan lids shall remain in place at all times when the pans are not in use.

d. Residue Control

The open burning operation of WMM results in the generation of treatment residues in the forms of residue and scrap metal. The OB residue is a fine powdery or feathery material resembling ash. These residues shall be handled in the following manner:

i. Ash Residue

At the completion of each burn, the Permittee will allow a 1-hour cooling period and then verify via visual inspection that all of the reactive material has been properly treated. Within 24-hours following the treatment event and verification that all explosives have been treated, or in as timely a manner as is possible to prevent harm to human health and the environment, the ash residue shall be removed from the pan and placed into DOT-approved containers. The containers shall be properly labeled with the appropriate hazardous waste designation including the applicable RCRA waste codes and the date(s) where appropriate. All containers must be managed in accordance with the conditions set forth in Module IX of this permit and all appropriate state and Federal regulations governing hazardous waste accumulation, storage, and disposal. Filled containers may be removed to a permitted hazardous waste storage area (Building 466, 512 or 527) before disposal. Accumulation of up to 55 gallons of waste residue is allowed at the OB area in accordance with 335-14-3-.03(5)(c). All waste in containers shall be characterized in accordance with Section IV.C-2 (Waste Analysis Plan) of the permit application. Wind dispersal of ash shall be controlled by limiting burns in accordance with Permit Condition V.D.1.a. When ash is present following the cooling period and prior to removal, lids are to be placed on the burn pans in order to prevent precipitation from accumulating in the burn pans.

ii. Scrap Metal from Open Burning

At the completion of each burn, the Permittee will allow a 1-hour cooling period. Metal fragments shall be visually inspected, certified, and verified as free of explosives on a ANMC Form 55-6 (or equivalent document). The scrap metal shall be collected, loaded into containers, and transported to the Permittee's Defense

Reutilization Marketing Office (DRMO) or suitable scrap vendor for recycling or disposal. The ANMC Form 55-6 (or equivalent document) shall be retained by the ANMC as the document of record.

2. Open Detonation (OD) / Buried Detonation (BD)

a. Meteorological Restrictions

The listed meteorological restrictions are applicable to open detonation treatment operations. Treatment is allowed subject to the requirements of this permit under the following weather conditions:

i. Less than a 50 percent chance of precipitation (including thunderstorms or electrical storms),

ii. Average wind speed between 3 and 20 miles per hour,

iii. Cloud cover less than 80 percent and ceilings greater than 2,000 feet,

iv. Wind direction which will not carry emissions over any publicly accessible area within one mile of the unit boundary, and

v. When any of the above weather conditions have changed after a detonation has been set, wired and buried and it is determined that under such conditions it would be unsafe to leave the explosives in place without detonating.

b. Other Restrictions

i. Open detonations are limited to the hours between 8:00am and 4:00pm Monday through Saturday, and

ii. Open detonation is limited to no more than sixteen (16) detonations per day.

c. Treatment Quantities and Daily Maximum Limits

The following quantity of material may be treated at the OD unit, expressed as net explosive weight (NEW). NEW represents the combined explosives weight of all energetics contained in a munitions item and donor material. Explosive limits have been established for the OD unit and these limits shall not be exceeded at any time. The volume of WMM treated at the OD unit varies based on the disposal and demilitarization needs of DoD. The operating limits are as follows:

i. Open (above ground) Detonation (OD): Shall not exceed 15 pounds NEW per detonation (maximum daily limit of 240 pounds

NEW for the eight detonation stations). No more than two detonations may be conducted per station per operating day.

ii. Buried Detonation (BD): Shall not exceed 1,000 pounds NEW per detonation station (maximum daily limit 16,000 pounds NEW for the eight detonation stations). No more than sixteen detonations may be conducted per operating day. Buried detonations shall not occur at depths below 14 feet or above 1 foot below ground surface.

d. Residue Control

i. The open detonation operation may generate unexploded ordnance (UXO), munitions components containing energetic material, and metal fragments ejected from the open detonation area. Residue must be managed in accordance with the procedures in Section IV.F-6 of the facility Part B application. The OD Unit has been defined by three areas – the Active Area, the Validation Area, and the Assessment Area. Figure IV.F-8 of the Part B permit application shows the individual areas and the GPS coordinates of the boundaries associated with each area.

a). Active Area of the OD Unit

1). At the completion of each detonation series, the Permittee will visually inspect the Active Area of the OD Unit for the presence of UXO. Any UXO or munitions containing unreacted material shall be retreated with the next available detonation.

2). At the completion of each operating day, the Permittee shall visually inspect the Active Area of the OD Unit for the presence of metal fragments that are (1) observable on the soil and (2) measure 4 inches or greater in any dimension. Any metal fragments meeting the above criteria shall be collected and removed. Any fragment found shall be visually inspected to verify that the energetic component of the waste munitions has been successfully treated. Any UXO or munitions components containing unreacted material shall be retreated with the next available detonation. Metal fragments will be certified as explosive-free and removed as scrap metal.

b). Validation Area

At least monthly (during months which have at least one operating day), the Permittee shall visually inspect the Validation Area of the OD Unit for the presence of UXO, munitions components containing unreacted material and metal fragments that are (1) observable on the soil and (2) measure 4 inches or greater in any dimension. Any metal fragments meeting the above criteria shall be collected and removed. The location of any UXO or munitions components containing UXO or munitions components containing unreacted material will be identified on a site map which will be maintained in the Pit Office and will be retreated with the next available detonation. Metal will be certified as explosive-free and removed as scrap metal.

c). Assessment Area

1). In the event that UXO or munitions components containing unreacted material are found during inspection of the Validation Area, the corresponding quadrant of the Assessment Area will also be inspected. The location of any UXO or munitions components containing unreacted material will be identified on the site map maintained at the Pit Office and retreated with the next available detonation. The presence of UXO or munitions components containing unreacted material within the Assessment Area will result in re-evaluation of the shot configuration and re-evaluation of the site map boundaries

2). The Department must be notified within 24 hours of the discovery of UXO within the Assessment Area. The permittee shall submit a written report within 15 days showing the results of the boundary re-evaluation. If the evaluation indicates that currently permitted boundaries are ineffective in keeping all UXO or munitions components containing unreacted material within the permitted boundaries, then a permit modification to justify re-evaluation of permitted boundaries shall be submitted in accordance with Condition I.K.3 of this permit.

ii. Sediment from Retention Basins

Any run-off sediment collected and removed from the retention basin may be reused within the OD unit boundary. However, any

sediment applied onto the soil surface outside the OD unit boundary shall constitute land disposal and, as such, must comply with all applicable Land Disposal Restriction (LDR) treatment standards under AAC 335-14-9. Any sediment disposed of off-site must be properly characterized and disposed of in accordance with the ANAD Waste Analysis Plan.

3. Static Detonation Chamber (SDC)

a. Meteorological Restrictions

There are no meteorological restrictions for the SDC, as it is an enclosed system.

b. Hours of Operation

The SDC has no restriction on the hours of operation.

c. Treatment Quantities and Maximum Limits

The following quantity of material may be treated at the SDC unit, expressed as net explosive weight (NEW). NEW represents the combined explosives weight of all energetics contained in a munitions item. Explosive limits have been established for the SDC unit and these limits shall not be exceeded at any time. The volume of WMM treated at the SDC unit may vary based on the disposal and demilitarization needs of DoD but shall not exceed the limits below. Conventional WMM listed in Table IV.C. of the permit application (including small arms, projectiles, mines, rockets, grenades, pyrotechnics, and explosives contaminated material, toxic containing materials, fuses, detonators, etc.), mustard containing chemical munitions, and secondary waste generated by the SDC may be processed in the SDC provided the following boundary conditions are not exceeded. An event shall be defined as processing of one tray within the SDC.

i. No shape charges unless shape charge is disengaged or altered prior to feeding in order to prevent equipment damage,

ii. Mustard agent ≤ 56.6 lbs/hr (see table 5-2).

iii. Overall weight < 330.7 lbs/event (including feed tray),

iv. Chlorine < 11.1 lbs/event,

v. Sulfur < 6.3 lbs/event,

vi. Non-Mass Detonating Explosives < 6.7 lbs NEW/event, and

vii. Mass Detonating Explosives < 6.7 lbs NEW/event.

d. Maintenance

i. All RCRA and MACT required process monitors shall be equipped with alarms operated to warn of deviation from the limits specified in Table 5-1.

ii. Modifications to the design plans, specifications, and operating conditions in the ANCDF Application for the SDC shall be allowed only IAW Permit Condition II.A.2.

iii. Prior to treating hazardous waste in the SDC unit, the Permittee shall install and test all process monitoring and control instrumentation specified in Table 5-1 according to manufacturer specifications and the ANCDF Laboratory Analysis and Monitoring Plan (LAMP).

iv. The Permittee shall not process hazardous waste in the SDC until such time that the Permittee has demonstrated compliance with the certification of construction or modification requirements, as specified in Permit Condition I.E.14 of this permit.

v. The Permittee shall maintain the SDC during systemization, emissions testing, post emissions testing, and normal operating periods such that when operated IAW the operating requirements specified in this Permit, it shall meet the applicable performance standards specified in the Emissions Test Plan and Section V.D.3.f of this permit.

vi. The off-gas treatment system (OGT and carbon filtration system shall be maintained and operated so as to minimize the emissions of air contaminants. This equipment shall be properly operated and maintained in accordance with Section III.K of the facility permit application. Carbon filter disposal shall be managed in accordance with Section III.K.C.2a and Table III K-5 of the facility permit application.

vii. SDC Carbon Filtration Systems shall be monitored in accordance with the ANCDF LAMP and the RCRA Permit.

a) The OGT Safeguard Filtration unit must be operational at all times during Chemical or Conventional WMM processing. If agent breakthrough is confirmed by mid-bed monitoring with DAAMS (>) 0.2 Allowable Stack Concentration (ASC), then the filter must be taken out of service until both carbon banks have been replaced and leak checked.

b) The SDC-Sprung Structure Filtration unit must be operational at all times during Chemical Agent operations and until agent decontamination at the SDC is complete. If agent breakthrough is indicated by mid-bed monitoring with DAAMS at (>) STL, then the filter must be taken out of service until banks 1 and 2 have been replaced and leak checked.

c) The first bank of each carbon filtration unit shall contain Sulfur Impregnated Carbon (SIC) as demonstrated during emissions testing for mercury removal.

e. Emissions Test Plan and Data Submittal

i. The Permittee shall operate and monitor the SDC unit during the short-term periods (systemization, emissions testing, and post emissions testing) as specified in the approved Emissions Test Plan for both mustard and conventional munitions dated February 2010 and revised August 2010.

ii. The emissions test plan for both mustard and conventional munitions shall be submitted by the Permittee as a request for major permit modification(s) at least 180 calendar days prior to the proposed start date of the systemization period for each test. All applicable public comment periods and notifications as required by AAC 335-14-8-.04(2) shall be followed.

iii. The emissions test plan shall define operating conditions and waste feed rates that shall be used to determine SDC performance IAW AAC 335-14-8-.06(2)(b).

iv. The Permittee shall not start a systemization period in the SDC unit until the Department has approved the emissions test plan for the SDC unit.

v. The Permittee shall submit a summary of all data collected during the emissions test to the Department upon completion of each test period. The Permittee shall submit to the Department an emissions test report within 90 calendar days of completion of each test. All submissions shall be certified IAW AAC 335-14-8-.02(2).

vi. If the preliminary calculations show that one or more of the performance standards listed in this permit for the SDC were not met during the emissions test, the Permittee shall immediately stop waste feed to the SDC system. The Department shall be verbally notified within 24 hours of this discovery. If necessary, a revised post-emissions test feed rate may be submitted to the Department for approval.

f. Systemization

i. The systemization period for the SDC shall be conducted IAW the approved emissions test plans provided.

ii. The systemization period for the SDC shall begin with the introduction of conventional munitions into the SDC unit and shall end with the start of the emissions test. There will be a separate systemization period for the mustard munitions emissions test.

iii. Each systemization period shall not exceed 720 operating hours. The Permittee may petition the Department for one extension of any systemization period for up to 720 additional operational hours IAW AAC 335-14-8-.06(2)(a).

g. Reporting

i. The Permittee shall submit to the Department an annual report which summarizes the QA/QC reliability problems experienced with mustard agent stack gas monitors and, (for periods in which such ambient air monitoring was required), ambient air mustard agent monitors during the previous year. This summary report shall include, but not be limited to, the following:

a) Identification of the monitor experiencing the problem

b) Identification of the type of problem

c) Date the problem was experienced

d) Frequency of the problem

e) Corrective action implemented to correct the problem, and whether or not or to what degree the corrective action was successful.

ii. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall submit a report of all quarterly CEM Calibration Error and annual CEM Performance Specification Tests conducted IAW AAC 335-3-11-.06 [56] within 60 calendar days of the date of the tests.

h. Performance Standards

i. During the systemization, emissions test, post-emissions test, and normal operating periods, the SDC must achieve a destruction and removal efficiency (DRE) of 99.9999% for mustard agent

(HD/HT). The DRE shall be calculated by the method specified in AAC 335-14-5-.15(4)(a)1.

ii. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall control emissions of products of incomplete combustion (PICs) from the stack such that the CO level in the stack, corrected to 7% O_2 IAW the formula given below, shall not exceed 100 ppm, dry volume, instantaneous.

$$CO_c = CO_m \times (21 - 7)/(21 - O_m)$$

Where: Co_c = corrected CO ppm

Co_m = measured CO ppm

O_m = measured % O_2

iii. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall monitor emissions of mustard agent being treated from the SDC using an ACAMS installed at the stack. The emission level shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	HD/HT
ROHA	0.006
Instantaneous	0.03

iv. During the systemization, emissions test, post-emissions test, and normal operating periods, the PM emission from the common stack, corrected to 7% O_2 IAW the formula given below (AAC 335-14-5-.15(4)(c)), shall not exceed 0.013 grains/dscf.

$$P_c = P_m \times 14/(21 - Y)$$

Where: P_c = corrected concentration of PM

P_m = measured concentration of PM

Y = measured O_2 concentration in the stack gas

v. During the systemization and emissions test periods, emissions limits must be established for the following parameters in grams/second (g/s);

a) HCl emissions

b) Metal emission rates for antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, phosphorous, selenium, silver, thallium, tin, vanadium, and zinc

c) Volatile, semivolatile, and total organic compound emissions

d) Dioxin/furan emissions

e) Energetic emissions

During normal operations, the established emissions limits shall be met by limiting the overall feed rate into the SDC. The Permittee shall submit a request to modify this permit to include numerically specified data for the above parameters not later than 90 days following the emissions test.

i. Limitations on Waste Feed

i. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall treat only the hazardous wastes that meet the requirements listed in Section V.D.3.c and Table 5-2 and in compliance with the operating requirements specified in Condition V.D.3.h.

ii. After successful completion of the Emissions Test, the Permittee shall be authorized to commence hazardous waste feed to the SDC at rates up to 50 % of the maximum feed rates indicated in Tables 5-2 for all hazardous waste processing.

iii. After successful completion of the Emissions Test, the Permittee shall be authorized to commence hazardous waste feed to the SDC at rates up to 75% of the maximum feed rates indicated in Tables 5-2 upon submittal and Departmental approval of a report in a format specified by the Department showing compliance with the performance standards in Section V.D.3.h.

iv. After successful completion of the Emissions Test, the Permittee shall be authorized to commence hazardous waste feed to the SDC at rates up to 100% of the maximum feed rates demonstrated during the previous emissions test for the SDC upon submittal and Departmental approval of the following:

a) A complete emissions test report,

b) A submittal proposing operating conditions for post-emissions test and normal operating periods; and

c) An updated RAA and/or a final HHRA report.

v. Reserve flush tank solution meeting the requirements in Section V.D.3. may be fed to the SDC during the systemization, emissions test, post-emissions test, and normal operating periods.

vi. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall verify that the waste feed is within the physical and chemical composition limits specified in this Permit. Mustard agent and metal feed rates will be based upon the results of emissions testing. Feed rates for sulfur, chlorine and energetics (NEW) will be established by using munitions specific data available from MIDAS. Feed determinations must be made for each feed event to the SDC. One determination is sufficient for identical feed trays.

vii. During the systemization and emissions testing periods, the SDC is limited to only the conventional munitions from the ANAD storage igloos which are required to conduct performance and emissions testing. This includes up to 68 pyrotechnic rounds and up to 24 60mm rounds per hour. Normal operating periods for the SDC may include conventional munitions processing upon completion of the chemical weapons stockpile destruction and decontamination of the unit.

viii. During the systemization, emissions testing, post-emissions testing, and normal operating periods, the SDC will only process from the ANAD chemical weapons stockpile overpacked mustard munitions, reject mustard munitions, mustard munitions with limited safety features, and mustard munitions necessary for demonstrating testing such as emissions testing and feasibility until such time as all chemical stockpile items have been destroyed. Upon completion of the stockpile and decontamination of the unit, the SDC may be used to process conventional munitions in accordance with the conditions of this permit.

j. Operating Conditions

i. During the systemization, emissions test, post-emissions test and normal operating periods, the Permittee shall operate the SDC in order to maintain the system and process parameters listed in Table 5-1.

ii. During the systemization, emissions test, post-emissions test and normal operating periods, the Permittee shall operate the FPI systems, specified in Table 5-1, to automatically prohibit waste feed to the SDC when the monitored operating conditions deviate from the setpoints specified in Table 5-1.

iii. After approval of the emissions test report, the Permittee shall operate the SDC in accordance with the feed limitations specified

in this Section. The agent waste feed shall be limited to the rates specified in Table 5-2.

k. Monitoring Requirements

i. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment, as specified in Table 5-1 while treating hazardous waste.

ii. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall not treat any hazardous waste in the SDC at any time if any of the monitoring instruments listed in Table 5-1, fail to operate properly.

l. Feed Prohibitive Interlock (FPI) Requirements

i. During the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall operate the systems, specified in Table 5-1, to automatically prohibit hazardous waste feed to the SDC when the monitored operating conditions deviate from the setpoints specified in Table 5-1. The destruction sequence may not resume until the parameter(s) which cause the interlock is/are restored to permit limits and all other parameters are within permit limits.

ii. In the event of a malfunction of the FPI systems listed in Table 5-1 during the systemization, emissions test, post-emissions test, and normal operating periods, the Permittee shall immediately, manually, cut-off and/or lock-out the waste feed. The Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected. Waste feed may not restart until the parameter(s) which caused the feed prohibitive condition is/are restored to permit limits and all other parameters are within permit limits.

iii. During the systemization, emissions test, post-emissions test and normal operating periods, the Permittee shall manually cut-off and/or lock-out the waste feed when the operating conditions deviate from the limits specified in Condition V.D.3.i unless the deviation automatically activates the FPI sequence.

V.E. INSPECTION

The Permittee is required to conduct routine inspections at the OB, OD, and SDC units. During such inspections, the Permittee will check for malfunction and/or deterioration, operator error, and evidence of discharge, that may cause or lead to the release of hazardous constituents or that may have caused or lead to a potential threat to human health or the environment. These inspections shall be conducted at frequencies specified in Tables III.K-3, IV.J-3, and IV.F-1 of the facility permit application.

Any equipment or structure deterioration or malfunction identified in the inspection must be promptly remedied to ensure that operations remain in compliance with permit conditions and do not cause environmental or human health hazards. If a hazard is determined to be imminent, or has already occurred, remedial action must be taken immediately. No further OB, OD, or SDC operation is allowed to commence if the deterioration or malfunction has the potential to cause an imminent hazard to human health or the environment. The Department shall be notified within 24 hours of the determination of an imminent hazard in accordance with the reporting requirements of Conditions I.17 and I.18 of this permit.

OB and OD inspections shall be performed in accordance with Section IV.F-2 of the permit application. OB and OD inspections shall be documented in accordance with Figures IV.F-1, IV.F-2, and IV.F-3 (inspection log sheets) of the facility permit application.

SDC inspections shall be performed in accordance with Sections III.K.F and IV.J.F of the permit application and in accordance with the SDC inspection log sheets.

V.F. GROUNDWATER MONITORING PROGRAM

A groundwater monitoring program shall be established for the OB and OD units in accordance with the requirements in Module X of this permit.

V.G. AIR MONITORING

The Permittee shall operate the thermal treatment units to protect human health of on-site workers and off-site receptors and to minimize significant effects to the ecosystem surrounding the treatment areas. The Permittee shall adhere to the following conditions to minimize risk of cancer and non-cancer effects due to exposure to thermal treatment air emissions:

1. The Permittee shall conduct a Human Health and Ecological Risk Assessment based upon operational limits of the thermal treatment units in Section V.C of this permit.

2. A cumulative assessment of cancer risk to off-site receptors posed by the Anniston Chemical Agent Disposal Facility (ANCDF) and ANAD's OB, OD, and SDC units must be evaluated to determine cancer risk. Results of the cumulative

evaluation must indicate that the summation of the risk estimates is below the cancer risk factor of 1×10^{-5}.

3. The maximum NEW, including donors and initiators, to be treated shall not exceed the values in Condition V.D.

4. Any changes in operational limits of the thermal treatment units shall require submission of a revised risk assessment to the Department under permit modification pursuant to condition I.K of this permit.

5. The Permittee shall perform sampling and analysis of the waste and exhaust emissions at the SDC to verify that the operating requirements established in the permit achieve the performance standards delineated in this Permit. Initial testing must be done within 6 months after start up of the SDC. Subsequent tests shall be conducted no later than 61 months after the previous test. The Department must be notified in writing at least one year prior to the scheduled date of the test.

6. During the systemization, emissions test, and post-emissions test periods for the SDC, the Permittee shall calibrate the oxygen (O_2) and carbon monoxide (CO) Continuous Emissions Monitoring Systems (CEMS) specified in this Permit IAW the Performance Specifications for CEMS referenced by AAC 335-3-11-.06[56].

V.H. CLOSURE AND POST-CLOSURE PLAN

The Permittee shall close the OB, OD, and SDC units in accordance with ADEM Admin. Code R. 335-14-5-.07 and Sections III.K.I, VI.K.I, and IV.I of the facility permit application. If clean closure according to ADEM Admin. Code R. 335-14-5-.07(2) cannot be obtained, then the Permittee shall submit a post-closure plan as part of a permit modification in accordance with Permit Condition I.K.

1. Closure Procedures

   a. All untreated reactive hazardous wastes, contaminated ash residue, unexploded ordnance (UXO), contaminated concrete pads, and contaminated soils shall be removed from the OB and OD units as described in Section IV.G of the facility permit application and disposed in accordance with all state and Federal regulations governing hazardous waste handling and disposal. Sediments within the OD retention basin shall be sampled, removed, and managed in accordance with Condition V.D.2.d.iii of this permit.

   b. All burn pans and lids shall be decontaminated or disposed as required by ADEM Admin. Code R 335-14-5-.07(5) and as described in Section IV.G of the facility permit application. Decontaminated burn pans and lids may be removed from the OB unit and disposed as scrap metal or may be put to other use at ANAD. All SDC equipment shall be decontaminated or

disposed of as required by ADEM Admin. Code R335-14-5-.07(5) and as described in Sections III.K.I and IV.J.I of the facility permit application.

c. Concrete pads shall be decontaminated and/or cleaned to remove untreated waste and/or ashes as required by ADEM Admin. Code R 335-14-5-.07 and as described in Section IV.I of the facility permit application. The supports and pads may be left in place if decontaminated to acceptable criteria approved by the Department or disposed of as a non-hazardous waste. If concrete cannot be cleaned and properly decontaminated, it shall be disposed of in accordance with Permit Condition V.H.1.a.

d. All soil in the OB and OD unit areas shall be sampled for contamination in accordance with the ADEM approved closure plan required by Permit Condition V.H. If removal or remediation of all contaminated soil cannot be attained during approved closure activities, the OB and OD units shall be closed in accordance with ADEM Admin. Code R 335-14-5-.07 and an approved post-closure plan.

e. If the OB, OD, and SDC units cannot be clean-closed and certified for unrestricted use pursuant to the Uniform Environmental Covenant Act (UECA)[AAC 335-5], then a Land Use Control Plan must be developed and submitted in the post-closure plan.

2. Groundwater

a. Groundwater underlying the OB and OD units is required to be monitored throughout the operating life of the OB and OD units in accordance with Permit Conditions X.A through X.E and Section IV.I of the facility permit application. If at the time of closure the current and historical groundwater monitoring results indicate no evidence of contamination from the OB and OD units, then the groundwater will be considered un-impacted by OB and OD operations. If groundwater contamination is present from OB and OD operations, then the Permittee must address continued groundwater monitoring and corrective action in the post-closure plan.

Table 5-1: FPI Conditions for Mustard and Conventional WMM[1]

Item No.	Instrument Tag Number	Process Data Description	Range	Parameter
SDC-FPI-01	PI 12007	Detonation Chamber Static Pressure Indication	MAX	18.32 psi
SDC-FPI-02	TI 12021	Detonation Chamber Temperature Indication	MIN	1,000°F
SDC-FPI-03	TICS 310 AVG	Thermal Oxidizer Temperature	MIN	1,741° F
SDC-FPI-04	PICS 310 AVG	Thermal Oxidizer Pressure	MAX	- 0.01 psi
SDC-FPI-05	TICS 320 AVG	Spray Dryer Temperature	MAX	400° F
SDC-FPI-06	PDS 33001	Bag-house Differential Pressure	MAX	0.18 psi
SDC-FPI-07	FIA 34204	Acid Scrubber Process Flow	MIN	3.2 cfm
SDC-FPI-08	FIS 34203	Quench Tower Flow	MIN	2.4 cfm
SDC-FPI-09	TIS 34003, 34004	Quench Tower Temperature	MAX	170° F
SDC-FPI-10	TIA 37002	Neutral Scrubber Discharge Temperature	MAX	200° F
SDC-FPI-11	AAhh-900	CO Concentration	MAX	100 ppm, dry basis @7% O_2 (instantaneous)

Footnote:

1. Operational parameter(s) interlock will prohibit the transfer from loading chamber 1 into chamber 2 until all conditions are met or are within range.

Abbreviations:

%.....percent
°F .....degrees Fahrenheit
FPI .....feed prohibitive interlock
MAX.....maximum
MIN .....minimum
ppm.....parts per million
ROHA.....rolling hourly average
TBD .....to be determined
@ .....at
CO.....carbon monoxide
cfm.....cubic feet per minute
mg/m^3.....milligrams per cubic meter
O_2.....oxygen
psi .....pounds per square inch
SDC .....Static Detonation Chamber
WMM .....waste military munition

Table 5-2: Systemization, Emissions Test, Post-Emissions Test, and Normal Operations Feed Rates for Mustard and Conventional WMM

Munition Type	Munition Content (lbs/munition)		Feed Rate (munitions/hr)[1]	Total Feed Rate (lbs/tray)		Total Feed Rate (lbs/hr) [1]	
	Agent	Explosive		Agent	Explosive	Agent	Explosive
4.2-inch Mortars	6.0	0.14	10	12	0.29	56.6	1.44
105mm Projectiles	2.97	0.26	19	11.9	1.04	56.6	4.94
155mm Projectiles	11.7	0.41	3	23.4	0.82	56.6	1.23
Combined	N/A	N/A	6(2)	12	0.66	56.6	1.33
Conventional	N/A	6.7	N/A	N/A	6.7	N/A	134

Footnotes:
1. Combined example shown for one (1) over packed mortar, with two (2) 105mm projectiles twice per hour.

Table 5-3: Metal and Chloride Feed Rates for Munitions and WMM Feed Events[1,2]

Metal	Total Feed Rate (lbs/hr)	Metal	Total Feed Rate (lbs/hr)
Antimony	5.6E-01	Manganese	1.53E00
Arsenic	3.1E-01	Mercury	1.7E-02
Barium	1.12E+01	Nickel	1.1E-01
Beryllium	2.4E-03	Phosphorus	2.25E00
Boron	3.4E-01	Selenium	7.2E-03
Cadmium	8.3E-03	Silver	1.2E-02
Chloride	3.92E+02	Thallium	1.5E-03
Chromium	2.64E00	Tin	2.3E-01
Cobalt	3.9E-02	Vanadium	4.6E-03
Copper	4.1E-01	Zinc	3.1E-01
Lead	2.58E+01		

Footnotes:
1. These rates were demonstrated during Conditions 3 and 4b emissions testing.
2. Rates shown here are extrapolated from the demonstrated values using allowable MACT rules as explained in the Final SDC Emissions Test Report for Condition 4b, section 8.5.

MODULE VI: INCINERATION – SHAKEDOWN, TRIAL-BURN AND POST TRIAL-BURN

TABLE OF CONTENTS **PAGE**

VI.A. GENERAL CONDITIONS DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN FOR ALL INCINERATORS AT THE ANCDF SITE 3

1. MAINTENANCE 3
2. INSPECTION REQUIREMENTS 4
3. MONITORING REQUIREMENTS 4
4. RECORDKEEPING 4
5. TRIAL BURN PLAN AND DATA SUBMITTAL 5
6. SHAKEDOWN 5
7. REPORTING 6

VI.B. LIQUID INCINERATOR 6

1. PERFORMANCE STANDARDS 6
2. LIMITATION ON WASTE FEED 8
3. OPERATING CONDITIONS 9
4. MONITORING REQUIREMENTS 10
5. WASTE FEED CUT-OFF REQUIREMENTS 10

VI.C. METAL PARTS FURNACE 11

1. PERFORMANCE STANDARDS 11
2. LIMITATION ON WASTE FEED 13
3. OPERATING CONDITIONS 14
4. MONITORING REQUIREMENTS 18
5. WASTE FEED CUT-OFF REQUIREMENTS 18

VI.D. DEACTIVATION FURNACE SYSTEM 19

1. PERFORMANCE STANDARDS 19
2. LIMITATION ON WASTE FEED 21
3. OPERATING CONDITIONS 22
4. MONITORING REQUIREMENTS 24
5. WASTE FEED CUT-OFF REQUIREMENTS 24

VI.E. COMMON STACK FOR LIC, MPF, AND DFS 24

LIST OF TABLES **PAGE**

TABLE 6-1: MAXIMUM FEED RATES TO THE LIC....26

TABLE 6-2: MAXIMUM METALS AND CHLORINE/CHLORIDE FEED RATES TO THE LIC DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....27

TABLE 6-3: LIC AWFCO PARAMETERS DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....28

TABLE 6-4: MAXIMUM FEED RATES OF SECONDARY WASTE TO THE MPF DURING AGENT SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....32

TABLE 6-5: MAXIMUM MUNITION FEED RATES TO THE MPF DURING AGENT SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....33

TABLE 6-6: MAXIMUM METALS AND CHLORINE/CHLORIDE FEED RATES TO THE MPF DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....34

TABLE 6-7: MPF AWFCO PARAMETERS DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....32

TABLE 6-8: MAXIMUM MUNITION FEED RATES TO THE DFS DURING AGENT SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....39

TABLE 6-9: MAXIMUM METALS AND CHLORINE/CHLORIDE FEED RATES TO THE DFS DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....41

TABLE 6-10: DFS AWFCO PARAMETERS DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN....42

MODULE VI: INCINERATION – SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN

This module covers the incinerator shakedown, trial burn, and post-trial burn periods for each incinerator. For clarity, this module is organized as follows:

- Section VI.A. - Conditions applicable to all incinerators,
- Section VI.B. - Liquid Incinerator,
- Section VI.C. - Metal Parts Furnace,
- Section VI.D. - Deactivation Furnace System, and
- Section VI.E. - Combined stack for the LIC, MPF, and DFS.

VI.A. GENERAL CONDITIONS DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN FOR ALL INCINERATORS AT THE ANCDF SITE

1. Maintenance

a. All process monitors required, pursuant to Conditions VI.B.4., VI.C.4, VI.D.4., and VI.E.4., shall be equipped with alarms operated to warn of deviation, or imminent deviation, from the limits specified in Tables 6-3, 6-7, 7-3, 7-7, and 7-10.

b. Modifications to the design plans and specifications in the ANCDF Application for any incinerator shall be allowed only IAW Condition II.A.2.

c. Prior to treating hazardous waste in any incinerator, the Permittee shall install and test all process monitoring and control instrumentation specified in Tables 7-3, 7-7, and 7-10 for the incinerators IAW the design plans in Sections D-5 through D-7 of the ANCDF Application.

d. The Permittee shall not feed hazardous wastes into any incinerator until such time that the Permittee has demonstrated compliance with the certification of construction or modification requirements, as specified in Condition I.E.14.

e. The Permittee shall maintain each incinerator during shakedown, trial burn, and post-trial burn periods such that when operated, IAW the operating requirements specified in this Permit, it shall meet the applicable performance standards specified in Conditions VI.B.1., VI.C.1., VI.D.1., and VI.E.1.

f. All air pollution control devices and capture systems for which this Permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

2. Inspection Requirements

a. The Permittee shall inspect each incinerator IAW the Inspection Schedule (see Section III F-2 of the Application).

b. The inspection data for each incinerator shall be recorded, and the records shall be placed in the operating record for the respective incinerator, IAW Condition II.I.

3. Monitoring Requirements

a. Upon receipt of a written request from the Department, the Permittee shall perform sampling and analysis of the waste and exhaust emissions to verify that the operating requirements established in the permit achieve the performance standards delineated in this Permit.

b. All monitoring, recording, maintenance, calibration, and test data shall be recorded and the records for each incinerator shall be placed in the operating record for each respective incinerator, IAW Condition II.I.

c. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall calibrate the oxygen (O_2) and carbon monoxide (CO) Continuous Emission Monitoring Systems (CEMS) specified in this Permit IAW the Performance Specifications for CEMS referenced by AAC 335-3-11-.06[56].

4. Recordkeeping

a. The Permittee shall record and maintain in the operating record for each incinerator, all monitoring and inspection data compiled under the conditions of this Permit, IAW Condition II.I.

b. The Permittee shall record in the operating record the date, time, and duration of all AWFCOs, including the triggering parameters, reason for the deviation, and corrective measures taken to prevent recurrence of the incident. The Permittee shall also record all incidents of the AWFCO function failures, including the corrective measures taken to correct the condition that caused the failure.

c. A quarterly report as defined below will be submitted to the Director each calendar quarter within 30 days following the end of the quarter. The report will include the following information (all times in hours) (operating time does not include standby):

i. Total operating time since introduction of agent in device,

ii. Operating time in quarter (by Month), which is defined as rolling 12 month total)

iii. Date/time of all startups and shutdowns,

iv. Date/time/duration/cause/corrective action taken for all shutdowns caused by malfunction of either process or control equipment, and

v. Date/time/duration/cause/corrective action taken for all instances of waste feed cutoff.

5. Trial Burn Plan and Data Submittal

a. The Permittee shall operate and monitor each incinerator during the short-term periods (shakedown, trial burn, and post-trial burn) as specified in Module VI and in the trial burn plans for each different chemical agent for the applicable furnace.

b. The individual trial burn plan for each different chemical agent for the incinerator treating such agent shall be submitted by the Permittee as major permit modification(s) at least 180 calendar days prior to the proposed start date of the shakedown period for each trial burn. All applicable public comment periods and notifications as required by AAC 335-14-8-.04(2) shall be followed.

c. The trial burn plans shall define operating conditions and waste feed rates that shall be used to determine incinerator performance IAW AAC 335-14-8-.06(2)(b). The trial burn plans shall also include ramp up procedures during the shakedown periods and a plan detailing the allocation of resources during the shakedown and trial burn periods. Shakedown periods shall not begin until permit modifications IAW Condition VI.A.5.b. have been approved by the Department.

d. The Permittee may not start a shakedown period in any furnace system until the Department has approved the specific trial burn plan for that furnace system.

e. The Permittee shall submit a summary of all data collected during the trial burn to the Department upon completion of each trial burn period. The Permittee shall submit to the Department a trial burn test report within 90 calendar days of completion of each trial burn. All submissions shall be certified IAW AAC 335-14-8-.02(2).

f. If the preliminary calculations show that one or more of the performance standards listed in this permit for the respective incinerator were not met during the trial burn, the Permittee shall immediately stop waste feed to the incinerator system. The Department shall be verbally notified within 24 hours of this discovery. As necessary, a revised post-trial burn feed rate may be submitted to the Department for approval that shall allow the Permittee to dispose of the remaining hazardous wastes present in the tank systems.

6. Shakedown

a. Shakedown periods for each incinerator shall be conducted IAW the approved trial burn plans provided for in Condition VI.A.5.

b. Shakedown periods for each incinerator shall begin with the introduction of chemical agent into the furnace system and shall end with the start of

the trial burn. There shall be a separate shakedown period for each chemical agent.

c. Each shakedown period shall not exceed 720 operating hours. The Permittee may petition the Department for one extension of any shakedown period for up to 720 additional operational hours IAW AAC 335-14-8-.06(2)(a).

d. A natural gas-only trial burn, consisting of three valid test runs, shall be performed as part of the initial agent trial burn (ATB) for each furnace/incinerator system. The natural gas-only trial burn for each furnace/incinerator system shall commence at a time to be determined by the Department and shall occur during either the agent shakedown period or within a reasonable time as determined by the Department after the commencement of the initial trial burn for that furnace/incinerator. The sample locations and parameters collected and analyzed from the natural gas-only trial burn shall be the same as those collected/analyzed from the ATB for that system.

7. <u>Reporting</u>

a. The Permittee shall submit to the Department an annual report which summarizes the QA/QC reliability problems experienced with hydrogen chloride (HCl) chemical agent stack gas monitors and, (for periods in which such ambient air monitoring was required), ambient air mustard agent monitors during the previous year. This summary report shall include, but not be limited to, the following:

i. Identification of the monitor experiencing the problem;

ii. Identification of the type of problem (e.g., borderline or deficient recoveries);

iii. Date problem experienced;

iv. Frequency of problem; and

v. Corrective action implemented to correct the problem, and whether or not or to what degree the corrective action was successful.

b. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall submit a report of all quarterly CEM Calibration Error and annual CEM Performance Specification Tests conducted IAW Condition VI.A.7.i. within 60 calendar days of the date of the tests.

VI.B. LIQUID INCINERATOR

1. <u>Performance Standards</u>

a. During the shakedown, trial burn, and post-trial burn periods, the LIC must achieve a destruction and removal efficiency (DRE) of 99.9999% for the chemical agents GB, VX, and Mustard (HD/HT). The DRE shall be calculated by the method specified in AAC 335-14-5-.15(4)(a)1.

b. During the shakedown, trial burn, and post-trial burn periods, the particulate matter (PM) emission from the common stack, corrected to 7% O_2 IAW the formula given below (AAC 335-14-5-.15(4)(c)), shall not exceed 0.013 grains/dry standard cubic feet (dscf).

$$P_c = P_m \times 14/(21 - Y)$$

Where: P_c = corrected concentration of PM

P_m = measured concentration of PM

Y = measured O_2 concentration in the stack gas

c. During the shakedown, trial burn, and post-trial burn periods, the HCl emission from the LIC shall not exceed 5.99E-03 grams per second (g/s). The HCl emission limit shall be met by limiting the feed rate of chlorine/chloride into the LIC as specified in Condition VI.B.2.g.

d. During the shakedown, trial burn, and post-trial burn periods, the following metals emission rates from the LIC shall not be exceeded:

Antimony	6.44E-05 g/s	Arsenic	9.73E-05 g/s
Barium	6.44E-05 g/s	Beryllium	1.29E-05 g/s
Boron	1.70E-03 g/s	Cadmium	1.61E-05 g/s
Chromium	1.88E-05 g/s	Cobalt	3.22E-05 g/s
Copper	3.22E-05 g/s	Lead	1.98E-04 g/s
Manganese	2.47E-03 g/s	Mercury	3.08E-05 g/s
Nickel	3.22E-05 g/s	Phosphorous	2.54E-03 g/s
Selenium	3.30E-05 g/s	Silver	6.44E-05 g/s
Thallium	6.44E-06 g/s	Tin	1.22E-04 g/s
Vanadium	3.83E-05 g/s	Zinc	9.96E-04 g/s

The above emission limits shall be met by limiting feed rate of each metal into the LIC as specified in Condition VI.B.2.g.

e. During the shakedown period, trial burn, and post-trial burn periods, the following emission rates from the LIC shall not be exceeded:

HCl	5.99E-03 g/s	Cl_2	5.99E-03 g/s
HF	1.21E-02 g/s	Tetra CDD	3.32E-11 g/s
Penta CDD	1.66E-10 g/s	Hexa CDD	4.98E-10 g/s
Hepta CDD	1.66E-10 g/s	Octa CDD	3.32E-10 g/s
Tetra CDF	4.81E-11 g/s	Penta CDF	3.32E-10 g/s
Hexa CDF	6.64E-10 g/s	Hepta CDF	4.68E-10 g/s

Octa CDF	3.32E-10 g/s	Benzene	1.36E-04 g/s
Vinyl Chloride	1.82E-05 g/s		

The above emission limits shall be met by limiting the overall feed rate into the LIC.

f. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall control emissions of products of incomplete combustion (PICs) from the common stack such that the CO level in the common stack, corrected to 7% O_2 IAW the formula given below, shall not exceed 100 ppm, dry volume, over a ROHA.

$$CO_c = CO_m \times (21 - 7)/(21 - O_m)$$

Where: Co_c = corrected CO ppm

Co_m = measured CO ppm

O_m = measured % O_2

g. During the shakedown period, trial burn, and post-trial burn periods, the Permittee shall monitor emissions of chemical agents being treated from the LIC using an ACAMS installed in the duct work feeding the common stack. The emission level shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

h. During the shakedown, trial burn, and post-trial burn periods, compliance with the operating conditions specified in Condition VI.B.3., shall be regarded as compliance with the required performance standards identified in Conditions VI.B.1.a. through g. However, if it is determined that during the effective period of this Permit that compliance with the operating conditions in Condition VI.B.3. is not sufficient to ensure compliance with the performance standards specified in Conditions VI.B.1.a. through g., the Permit may be modified, revoked, or reissued, pursuant to AAC 335-14-8-.04(2) or (3).

2. Limitation on Waste Feed

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall incinerate only the hazardous wastes in Table 6-1 in the LIC, in compliance with the operating requirements specified in Condition VI.B.3.

b. After successful completion of the ATB the Permittee shall be authorized to commence hazardous waste feed to the LIC up to 50% of the maximum post-trial burn feed rates indicated in Tables 6-1 and 6-2 and shall not deviate from the operating conditions specified in Tables 6-3 and 7-3.

c. After successful completion of the ATB, the Permittee shall be authorized to commence hazardous waste feed to the LIC up to 75% of the maximum post-trial burn feed rates indicated in Tables 6-1 and 6-2 upon submittal and Departmental approval of a report in a format specified by the Department showing compliance with the performance standards in Conditions VI.B.1.

d. After successful completion of the ATB, the Permittee shall be authorized to commence hazardous waste feed to the LIC up to 100% of the maximum feed rates demonstrated during the previous trial burn for the LIC upon submittal and Departmental approval of the following:

   i. A complete trial burn report;

   ii. A submittal proposing operating conditions for post-trial burn and normal operating periods; and

   iii. A RAA and/or a final HRA report completed pursuant to Condition II.N.

e. SDS and aqueous laboratory liquids may be fed to the secondary chamber of the LIC during the shakedown period only when the operating conditions as specified in Condition VI.B.3. are satisfied.

f. During the trial burn and post-trial burn the SDS and laboratory aqueous liquid wastes shall be fed only into the secondary combustion chamber of the LIC with, or without, the chemical agent feed to the primary combustion chamber.

g. During the shakedown, trial burn, and post-trial burn periods, the feed rates of metals and chlorine/chloride to the LIC shall not exceed the limits in Table 6-2.

h. During the chemical agent post-trial burn periods, the Permittee shall incinerate the chemical agent that has been test burned during a preceding ATB at the feed rates specified in Table 6-1.

i. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall conduct sufficient analysis of the waste treated in the LIC to verify that the waste feed is within the physical and chemical composition limits specified in this Permit.

j. Only one chemical agent shall be fed to the LIC, at any given time.

3. <u>Operating Conditions</u>

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the LIC in order to maintain the system and process parameters listed in Table 7-1 within the ranges or setpoints specified in Table 7-1.

b. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the AWFCO systems, specified in Table 6-3, to

automatically cut-off and/or lock-out the hazardous waste feed to the LIC when the monitored operating conditions deviate from the setpoints specified in Table 6-3.

c. The Permittee shall not commence any trial burn period until documentation has been submitted to the Department verifying that the LIC has operated within the planned trial burn operating setpoints in Table 6-3 and at a minimum of 90% of the feed rates in Table 6-1 for a minimum of an 8 consecutive hour period on 2 consecutive processing days.

d. The Permittee shall not burn chemical agent in the primary combustion chamber of the LIC until the primary and secondary combustion chambers are within the operating parameters in Conditions VI.B.3.a. and b.

e. During startup, with the secondary combustion chamber temperature less than 1,400°F, the Permittee shall not burn fuel in or purge the primary combustion chamber of the LIC until agent concentration within the LIC primary chamber room is below 1 ASC.

4. <u>Monitoring Requirements</u>

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment, as specified in Tables 6-3 and 7-3, while incinerating hazardous waste.

b. During the shakedown, trial burn, and post-trial burn periods, hazardous wastes shall not be fed to the LIC if any of the monitoring instruments listed in Table 7-3, fail to operate properly.

5. <u>Waste Feed Cut-Off Requirements</u>

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the systems, specified in Table 6-3, to automatically cut-off and/or lock-out the hazardous waste feed to the LIC when the monitored operating conditions deviate from the setpoints specified in Table 6-3. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

b. In the event of a malfunction of the AWFCO systems listed in Table 6-3 during the shakedown, trial burn, and post-trial burn, the Permittee shall immediately, manually, cut-off and/or lock-out the waste feed. The Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

c. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall manually cut-off and/or lock-out the waste feed when the

operating conditions deviate from the limits specified in Condition VI.B.3. unless the deviation automatically activates the waste feed cut-off and/or lock-out sequence specified in Condition VI.B.5.i.

VI.C. METAL PARTS FURNACE

1. Performance Standards

a. During the shakedown, trial burn, and post-trial burn periods, the MPF shall achieve a DRE of 99.9999% for the chemical agents GB, VX, and Mustard (HD/HT) and secondary waste-like material using surrogate potential organic hazardous constituents (POHCs) Hexachloroethane and Monochlorobenzene. The DRE shall be calculated by the method specified in AAC 335-14-5-.15(4)(a)1.

b. During the shakedown, trial burn, and post-trial burn periods, the PM emission from the common stack, corrected to 7% O_2 IAW the formula given below (AAC 335-14-5-.15(4)(c)), shall not exceed 0.013 grains/dscf.

$$P_c = P_m \times 14/(21 - Y)$$

Where: P_c = corrected concentration of PM

P_m = measured concentration of PM

Y = measured O_2 concentration in the stack gas

c. During the shakedown, trial burn, and post-trial burn periods, the HCl emission from the MPF shall not exceed 8.18E-03 g/s. The HCl emission limit shall be met by limiting the feed rate of chlorine/chloride into the MPF as specified in Condition VI.C.2.e.

d. During the shakedown, trial burn, and post-trial burn periods, the following metals emission rates from the MPF shall not be exceeded:

Antimony	1.19 E-04 g/s	Arsenic	8.52 E-05 g/s
Barium	2.95 E-04 g/s	Beryllium	2.38 E-05 g/s
Boron	2.29 E-03 g/s	Cadmium	7.30 E-05 g/s
Chromium	8.62 E-05 g/s	Cobalt	5.95 E-05 g/s
Copper	5.95 E-05 g/s	Lead	1.82 E-04 g/s
Manganese	1.57 E-03 g/s	Mercury	4.29 E-05 g/s
Nickel	1.46 E-04 g/s	Phosphorous	1.16 E-03 g/s
Selenium	7.23 E-05 g/s	Silver	1.19 E-04 g/s
Thallium	1.19 E-05 g/s	Tin	1.19 E-04 g/s
Vanadium	2.38 E-05 g/s	Zinc	2.09 E-04 g/s

The above emission limits shall be met by limiting feed rate of each metal into the MPF as specified in Condition VI.C.2.e.

e. During the shakedown, trial burn, and post-trial burn periods, the following emission rates from the MPF shall not be exceeded:

HCl	8.18 E-03 g/s	Cl_2	2.58 E-02 g/s
HF	1.93 E-02 g/s	Tetra CDD	9.17 E-11 g/s
Penta CDD	4.58 E-10 g/s	Hexa CDD	4.58 E-10 g/s
Hepta CDD	4.58 E-10 g/s	Octa CDD	9.77 E-10 g/s
Tetra CDF	9.17 E-11 g/s	Penta CDF	7.64 E-10 g/s
Hexa CDF	1.20 E-09 g/s	Hepta CDF	2.28 E-09 g/s
Octa CDF	1.36 E-09 g/s	Benzene	3.16 E-04 g/s
Vinyl Chloride	5.66 E-05 g/s		

The above emission limits shall be met by limiting the overall feed rate into the MPF.

f. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall control emission of PICs from the common stack such that the CO level in the common stack, corrected to 7% O_2 IAW the formula given below shall not exceed 100 ppm, dry volume, over a ROHA.

$$CO_c = CO_m \times (21 - 7)/(21 - O_m)$$

Where: Co_c = corrected CO ppm

Co_m = measured CO ppm

O_m = measured % O_2

g. During the shakedown period, trial burn, and post-trial burn periods, the Permittee shall monitor emissions of chemical agents being treated from the MPF using an ACAMS installed in the duct work feeding the common stack. The emission level shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

h. During the shakedown, trial burn, and post-trial burn periods, compliance with the operating conditions specified in Condition VI.C.3., shall be regarded as compliance with the required performance standards identified in Conditions VI.C.1.a. through g. However, if it is determined that during the effective period of this Permit that compliance with the operating conditions in Condition VI.C.3., is not sufficient to ensure compliance with the performance standards specified in Conditions

VI.C.1.a. through g., the Permit may be modified, revoked, or reissued, pursuant to AAC 335-14-8-.04(2) or (3).

2. Limitation on Waste Feed

a. After successful completion of the ATB the Permittee shall be authorized to commence hazardous waste feed to the MPF up to 50% of the maximum post-trial burn feed rates indicated in Tables 6-4, 6-5 and 6-6 and shall not deviate from the operating conditions specified in Tables 6-7 and 7-7.

b. After successful completion of the ATB, the Permittee shall be authorized to commence hazardous waste feed to the MPF up to 75% of the maximum post-trial burn feed rates indicated in Tables 6-4, 6-5 and 6-6 upon submittal and Departmental approval of a report in a format specified by the Department showing compliance with the performance standards in Conditions VI.C.1.

c. After successful completion of the ATB, the Permittee shall be authorized to commence hazardous waste feed to the MPF up to 100% of the maximum feed rates demonstrated during the previous trial burn for the MPF upon submittal and Departmental approval of the following:

   i. A complete trial burn report;

   ii. A submittal proposing operating conditions for post-trial burn and normal operating periods; and

   iii. A RAA and/or a final HRA report completed pursuant to Condition II.N.

d. During the chemical agent shakedown, trial burn, and post-trial burn periods, the Permittee shall incinerate the hazardous wastes in Table 6-4 and 6-5, in compliance with the operating requirements specified in Condition VI.C.3.

e. During the shakedown, trial burn, and post-trial burn, the feed rates of metals and chlorine to the MPF shall not exceed the limits in Table 6-6.

f. Throughout operation, the Permittee shall conduct sufficient analysis of the waste treated in the MPF to verify that the waste feed is within the physical and chemical composition limits specified in this Permit.

g. Only one chemical agent munition type shall be fed to the MPF, at any given time.

3. **Operating Conditions**

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the MPF in order to maintain the system and process parameters within the ranges or setpoints specified in Table 6-7.

b. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the AWFCO systems, specified in Table 6-7, to automatically cut-off and/or lock-out the hazardous waste feed to the MPF when the monitored operating conditions deviate from the setpoints specified in Table 6-7.

c. Only one loaded tray/WIC containing the waste materials shall be fed into the MPF at any given time, with a minimum interval between each tray feed.

d. The hourly feed rate of the residual chemical agent contained in the MPF feed, which was calculated based on the estimated drain from each munition type and from the amount of chemical agent in the munitions, shall not exceed the limits provided in Table 6-5. The following should be performed for munitions that cannot be drained to below the approved agent feed rate:

i. The Permittee shall provide the Department verbal notice of the detection of the munition/ton container that cannot be drained to below the maximum feed rates as set forth in Table 6-5 indicating its type and its location (i.e., process line leading to furnace, temporary holding location) and the efforts expended to facilitate additional draining.

ii. The Permittee must provide the Department with written procedures for processing of munitions that cannot be drained to below the maximum feed rates as set forth in Table 6-5. Operating procedures must be consistent with the following:

(I) the temperature and residence time in Zones 1, 2, and 3 shall not vary from limits set forth in Table 6-7.

(II) The temperature maintained in the afterburner shall be IAW Conditions VI.C.3.a and b.

iii. The Permittee shall develop a vaporization curve and calculations for the munition type and the quantity of residual chemical agent..

iv. The Permittee receives approval from the Department for processing the munitions that cannot be drained to below the maximum feed rates as set forth in Table 6-5.

ED_001691B_00010951

e. The Permittee shall keep a record of the percentage heel for each munition.

f. The Permittee shall not commence any trial burn period until documentation has been submitted to the Department verifying that the MPF has operated within the planned trial burn operating setpoints in Table 6-7 and at a minimum of 90% of the feed rates in Table 6-5 for a minimum of an 8 consecutive hour period on each of 2 consecutive processing days. (NOTE: Processing days for purposes of this requirement shall not be separated by more than 5 calendar days.)

g. The Permittee shall not burn chemical agent in the primary combustion chamber of the MPF until the primary chamber and afterburner are within the operating parameters in Conditions VI.C.3.a. and b.

h. During startup, with the secondary combustion chamber temperature less than 1,400°F, the Permittee shall not burn fuel in or purge the primary combustion chamber of the MPF until agent concentration within the MPF primary chamber room is below 1 ASC.

i. Trays/WICs/containment devices containing secondary waste shall be prepared IAW limits in Table 6-4. In addition, they shall comply with the following requirements:

   i. Each tray/WIC/containment device shall contain only one type of waste (e.g. metal parts, wood, PPE, absorbent materials, sludge, etc.), or

   ii. If waste types are combined in a single tray/WIC/containment device;

      (I) Bulk metal shall be considered to be a metal item with less than 10% combustible material or aluminum integrated into the piece.

      (II) Rubblized concrete, refractory, and scabbled concrete shall be processed in WICs containing pans and heat transfer fins, and shall be filled to a maximum depth of 7 inches.

      (III) Sludge shall be processed in tray/WICs/containment devices to a depth no greater than 1.5 inches and shall not be fed in combination with any other waste.

      (IV) Bulk combustible waste is any combustible waste that is not polyethylene, polystyrene or halogenated plastic. When WICs are used to process bulk combustibles, metal pans should be placed in the WICs and,

         1. Waste shall be placed in the WIC loosely packed in plastic bags or spread evenly in the WIC. Wastes shall not be rolled or bunched.

2. Wood and other dense combustible items shall be placed towards the top of loaded WIC's.
3. Toxicological agents protective (TAP) gear and LSS air hoses shall not be processed together in the same WIC.
4. M-40 masks shall be limited to one (1) mask per WIC.
5. M-40 Respirator Cartridges shall be limited to 2 cartridges per WIC unless the cartridges are opened, exposing the cartridge interior prior to loading.

(V) All non-munition wastes that envelop an interior space (e.g., gauges, cans, escape air tanks, overpacks, glassware, etc.) must be opened or punctured before being placed in the MPF.

iii.. The permittee shall prepare an inventory/feed sheet of all secondary waste contents in each tray/WIC/containment device; to contain an inventory of each waste type, including weight, Btu value of each waste type, chlorine, and metal contents.

iv. Secondary waste shall not be processed in the MPF until the construction of the Cool-Down Conveyor enclosure has been certified and approved by the Department pursuant to Condition I.E.14. and a DRE of 99.9999% for agent has been documented to the Department.

j. Munitions and secondary waste shall not be fed to the MPF at the same time.

k. In the event of a low temperature related AWFCO while processing trays/WICs/containment devices in the primary chamber of the MPF, forward zone movement of trays/WICs shall be governed as follows:

i. Trays containing ton containers, or WICs containing bulk combustibles (defined as any combustible waste that is not polyethylene, polystyrene or halogenated plastics), or bulk wastes containing interior or enveloping spaces (i.e., pumps, gauges) will either be held in position, moved forward to the MPF Discharge Airlock awaiting return to the furnace to complete the necessary treatment cycle, or returned to the charge airlock or lower munitions corridor awaiting return to the furnace for treatment.

ii. Trays containing other munition types or WICs containing secondary waste other than bulk combustibles, will be assessed in

accordance with the treatment requirements identified in Tables 6-4 or 6-5 for the respective waste or munition type. Trays/WICs that have completed the entirety of the residence time identified in Tables 6-4 or 6-5, regardless of the Zone in which the treatment occurred, will be transferred to the MPF Discharge Airlock for monitoring and discharge in accordance with this Permit. Trays/WICs that have not completed the required residence times will be managed in accordance with the requirements specified in VI.C.3 k.i above.

When furnace conditions are returned to operating parameters listed in Table 6-7, all zone timers shall be reset to zero (0) and no forward zone movement shall occur until the residence times listed in Tables 6-4 and 6-5 are completed.

l. In the event of an ACAMS alarm in the MPF Cool-Down Conveyor enclosure, the Permittee shall immediately:

i. Cease hazardous waste feed into the charge airlock of the MPF and out of the discharge air lock of the MPF.

ii. Automatically secure the cool-down enclosure louvered discharge fans.

iii. Secure the enclosure area doors.

iv. Vent the enclosure through ducting into the LIC 1 Secondary Room and thus through the MDB HVAC.

v. Analyze DAAMS from all monitoring stations within the Cool-Down Conveyor enclosure for the time period up to and including the ACAMS alarm, and

(I) If the alarm is determined to be non-confirmed/false positive via DAAMS analysis, then waste feed may be restarted upon return to the operating parameters listed in Table 6-7.

(II) If the alarm is confirmed to be agent, waste feed shall not restart until all requirements in Condition II.H. are met.

(III) Normal operations and waste feed may be restarted after completion of the requirements in Condition VI.3.k.v.(II) and upon return to operating parameters listed in Table 6-7.

vi. Identify the tray/WIC/containment device that initiated the alarm and return it to the MPF for further treatment or overpack and process through the TMA.

4. **Monitoring Requirements**

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment, as specified in Tables 6-7 and 7-7, while incinerating hazardous waste.

b. During the shakedown, trial burn, and post-trial burn periods, hazardous wastes shall not be fed to the MPF if any of the monitoring instruments listed in Tables 6-7 and 7-7, fails to operate properly.

5. **Waste Feed Cut-Off Requirements**

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the systems, specified in Table 6-7, to automatically cut-off and/or lock-out the hazardous waste feed to the MPF when the monitored operating conditions deviate from the setpoint specified in Table 6-7. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

b. During the shakedown, trial burn, and post-trial burn periods, in the event of a malfunction of the AWFCO systems listed in Table 6-7, the Permittee shall immediately, manually cut-off and/or lock-out the waste feed. The Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected. Waste feed may not restart until the parameter(s) which caused the feed cutoff or lockout is/are restored to permit limits and all other parameters are within permit limits.

c. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall manually cut-off and/or lock-out the waste feed when the operating conditions deviate from the limits specified in Table 6-7, unless the deviation automatically activates the waste feed cut-off and/or lock-out sequence specified in Condition VI.C.5.a.

d. During the shakedown, trial burn, and post-trial burn periods, the ACAMS monitoring the exhaust from the Metal parts Furnace Cool-Down Conveyor Enclosure (MPF-32 and MPF-33) may be operated as follows:

i. During the treatment of munitions or waste, the ACAMS may be taken off-line to perform maintenance or calibration under the following conditions:

I. No waste will be discharged from the MPF Discharge Airlock while the ACAMS are off-line.

II. Secondary waste meeting the definition of sludge has not been discharged from the MPF during a 1-hour period prior to taking the ACAMS off-line, and

III. No waste will be removed from the Cool-Down Conveyor Enclosure until the ACAMS has been returned to service and has been in operation for a period of at least 15-minutes.

ii. If the maintenance or calibration activities fail to return the ACAMS to service within two hours of taking the instrument off-line, no additional feed will be charged to the MPF until such time as the ACAMS has been returned to service.

VI.D. DEACTIVATION FURNACE SYSTEM

1. Performance Standards

a. During the shakedown, trial burn, and post-trial burn periods, the DFS must achieve a DRE of 99.9999% for the chemical agents GB and VX. The DRE shall be calculated by the method specified in AAC 335-14-5-.15(4)(a)1.

b. During the shakedown, trial burn, and post-trial burn periods, the PM emissions from the common stack, corrected to 7% O_2 IAW the formula given below (AAC 335-14-5-.15(4)(c)), shall not exceed 0.013 grains/dscf.

$$P_c = P_m \times 14/(21 - Y)$$

Where: Pc = corrected concentration of PM

Pm = measured concentration of PM

Y = measured O_2 concentration in the stack gas

c. During the shakedown, trial burn, and post-trial burn periods, the HCl emission from the DFS shall not exceed 8.46E-03 g/s. The HCl emission limit shall be met by limiting the feed rate of chlorine/chloride into the DFS as specified in Condition VI.D.2.e.

d. During the shakedown, trial burn, and post-trial burn periods, the following metals emission rates from the DFS shall not be exceeded:

Antimony	1.53E-04 g/s	Arsenic	4.41E-05 g/s
Barium	8.82E-05 g/s	Beryllium	6.50E-06 g/s
Boron	1.95E-03 g/s	Cadmium	1.96E-05 g/s
Chromium	5.10E-05 g/s	Cobalt	1.76E-05 g/s
Copper	5.64E-05 g/s	Lead	5.21E-04 g/s
Manganese	4.42E-03 g/s	Mercury	1.54E-05 g/s
Nickel	3.20E-05 g/s	Phosphorous	1.18E-03 g/s
Selenium	4.41E-05 g/s	Silver	1.76E-05 g/s

Thallium	8.82E-06 g/s	Tin	1.80E-04 g/s
Vanadium	4.41E-05 g/s	Zinc	9.45E-04 g/s

The metals emission limits shall be met by limiting feed rate of each metal into the DFS as specified in Condition VI.D.2.e.

e. During the shakedown, trial burn, and post-trial burn periods, the emission from the DFS shall not exceed the following limits:

HCl	8.46E-03 g/s	Cl_2	9.09E-03 g/s
HF	1.77E-02 g/s	Tetra CDD	5.71E-11 g/s
Penta CDD	2.85E-10 g/s	Hexa CDD	8.55E-10 g/s
Hepta CDD	6.11E-10 g/s	Octa CDD	1.23E-09 g/s
Tetra CDF	1.87E-10 g/s	Penta CDF	6.10E-10 g/s
Hexa CDF	1.25E-09 g/s	Hepta CDF	7.27E-10 g/s
Octa CDF	5.71E-10 g/s	Benzene	2.30E-04 g/s
Vinyl Chloride	1.37E-05 g/s	Nitroglycerine	3.34E-05 g/s
2,4-Dintirotoluene	1.47E-05 g/s	2,6-Dinitrotoluene	1.47E-05 g/s
2,4,6-Trinitrotoluene	4.04E-05 g/s	Diphenylamine	2.90E-05 g/s
RDX	3.59E-05 g/s	HMX	2.71E-06 g/s

The above emission limits shall be met by limiting the overall feed rate into the DFS.

f. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall control emission of PICs from the common stack such that the CO level in the common stack, corrected to 7% O_2 IAW the formula given below shall, not exceed 100 ppm, dry volume, over a ROHA.

$$Co_c = CO_m \times (21 - 7)/(21 - O_m)$$

Where: Co_c = corrected CO ppm

Co_m = measured CO ppm

O_m = measured % O_2

g. During the shakedown period, trial burn, and post-trial burn periods, the Permittee shall monitor and control emission of chemical agents from the DFS using an ACAMS installed in the duct work feeding the common stack. The emission level shall not exceed the following concentrations

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

h. During the shakedown, trial burn, and post-trial burn periods, compliance with the operating conditions specified in Condition VI.D.3., shall be regarded as compliance with the required performance standards identified in Conditions VI.D.1.a. through g. However, if it is determined that during the effective period of this Permit that compliance with the operating conditions in Condition VI.D.3. is not sufficient to ensure compliance with the performance standards specified in Conditions VI.D.1.g. through g., the Permit may be modified, revoked, or reissued, pursuant to AAC 335-14-8-.04(2) or (3).

2. <u>Limitation on Waste Feed</u>

a. After successful completion of the ATB the Permittee shall be authorized to commence hazardous waste feed to the DFS up to 50% of the maximum post-trial burn feed rates indicated in Tables 6-8 and 6-9 and shall not deviate from the operating conditions specified in Table and 7-10.

b. After successful completion of the ATB, the Permittee shall be authorized to commence hazardous waste feed to the DFS up to 75% of the maximum post-trial burn feed rates indicated in Tables 6-8 and 6-9 upon submittal and Departmental approval of a report in a format specified by the Department showing compliance with the performance standards in Conditions VI.D.1.

c. After successful completion of the ATB, the Permittee shall be authorized to commence hazardous waste feed to the DFS up to 100% of the maximum feed rates demonstrated during the previous trial burn for the DFS upon submittal and Departmental approval of the following:

   i. A complete trial burn report;

   ii. A submittal proposing operating conditions for post-trial burn and normal operating periods; and

   iii. A RAA and/or a final HRA report completed pursuant to Condition II.N.

d. During the ATB, the Permittee shall incinerate the hazardous wastes in Table 6-8 in the DFS, in compliance with the operating requirements specified in Condition VI.D.3.

e. During the shakedown, trial burn, and post-trial burn periods, the feed rate of metals and chlorine to the DFS shall not exceed the limits in Table 6-9.

f. Throughout operation, the Permittee shall conduct sufficient analysis of the waste treated in the DFS to verify that the waste feed is within the physical and chemical composition limits specified in this Permit, IAW the WAP (see Section III C-2).

g. Only one chemical agent, or waste containing one chemical agent, shall be fed to the DFS, at any given time.

3. Operating Conditions

a. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the DFS in order to maintain the system and process parameters within the ranges or setpoints specified in Table 7-10.

b. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall operate the AWFCO systems to automatically cut-off and/or lock-out the hazardous waste feed to the DFS when the monitored operating conditions deviate from the setpoints.

c. The Permittee shall not commence any trial burn period until documentation has been submitted to the Department verifying that the DFS has operated within the planned trial burn operating setpoints in Table 6-11 and at a minimum of 90% of the feed rates in Table 6-8 for a minimum of an 8 consecutive hour period on 2 consecutive processing days.

d. The rate of movement to the discharge conveyor shall be controlled during the GB and VX campaigns so as to provide a minimum solid retention time of 15 minutes inside the heated enclosure. Since the discharge conveyor will not be heated during the mustard campaign, this requirement will be met by either reducing the kiln speed or by placing the kiln in oscillation to ensure the treatment cycle is satisfied. This is only required for mustard contaminated components within the kiln

e. The rocket shear blade shall be sprayed with a SDS or process water (PRW) at all times when a rocket piece is at the blast gate and the shear blade is in operation; or at all times when a rocket piece is at the blast gate and the gate is jammed. The flow rate of the SDS or PRW to the rocket shear blade shall be continuously monitored and recorded during rocket processing operations.

f. A time delay of 30 seconds shall be provided for feeding M55 rocket sections before and after feeding fuses to the DFS, with the exception that tailfins from the previous rocket and nose plugs can be fed with the fuses.

g. The Permittee shall not burn chemical agent in the rotary kiln of the DFS until the rotary kiln and the afterburner are within the operating parameters in Conditions VI.D.3.a. and b.

h. During startup, with the afterburner temperature less than 1,400°F, the Permittee shall not burn fuel in or purge the rotary kiln of the DFS until agent concentration within the DFS rotary kiln room is below 1 ASC.

i. The Permittee shall continue to operate the burners in the primary combustion chamber of the DFS for at least 21 minutes after feed to the DFS has ceased.

j. In the event of an ACAMS alarm in the Discharge Conveyor (DC) bin enclosure which occurs while the enclosure door is closed and the enclosure is under engineering controls, the Permittee shall immediately:

i. Stop waste feed.

ii. Place DFS kiln in oscillate mode.

iii. Stop DC motion.

iv. Recover and analyze A and B DAAMS tubes.

(I) If the alarm is determined to be non-confirmed/false positive via DAAMS analysis, then normal operations and waste feed may be restarted upon return to the operating parameters.

(II) If the alarm is confirmed to be agent, the DC bin must be handled IAW 1X DC bin change-out procedures and transferred to the TMA for sample collection and analysis. This characterization will determine ultimate disposal of the DC bin contents.

(III) Normal operations and waste feed may be restarted after completion of the requirements in Condition VI.3.j.iv.(II) and upon return to the operating parameters.

k. In the event of an ACAMS alarm in the DC bin enclosure which occurs while the enclosure door is open or the enclosure is otherwise not under engineering controls, the Permittee shall immediately:

i. Stop waste feed.

ii. Place DFS kiln in oscillate mode.

iii. Stop DC motion.

iv. Recover and analyze the associated DAAMS monitors.

(I) If the alarm is determined to be non-confirmed/false positive via DAAMS analysis, then normal operations and waste feed may be restarted upon return to the operating parameters.

(II) If the alarm is confirmed to be agent, the DC bin must be handled IAW 1X DC bin change-out procedures and transferred to the TMA for sample collection and analysis. This characterization will determine ultimate disposal of the DC bin contents.

(III) If the alarm is confirmed to be agent, waste feed shall not restart until all requirements in Condition II.H. are met.

(IV) Normal operations and waste feed may be restarted after completion of the requirements in Conditions VI.3.k.iv.(II) and (III) and upon return to the operating parameters.

l. In the event waste is charged to the DFS that has been contaminated with HD/HT, the permittee will ensure the waste is contained within the confines of the rotary kiln to ensure destruction of the agent prior to discharge from the kiln to the DC.

4. Monitoring Requirements

a. The Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment, as specified in Table 7-10, while incinerating hazardous waste.

b. Hazardous wastes shall not be fed to the DFS if any of the monitoring instruments listed in Table 7-10 fail to operate properly.

5. Waste Feed Cut-Off Requirements

a. The Permittee shall maintain the systems to automatically cut-off and/or lock-out the hazardous waste feed to the DFS when the monitored operating conditions deviate from the setpoints. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

b. In case of a malfunction of the AWFCO systems the Permittee shall immediately, manually cut-off and/or lock-out the waste feed. The Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

c. The Permittee shall manually cut-off and/or lock-out the waste feed when the operating conditions deviate from the limits specified in Condition VI.D.3., unless the deviation automatically activates the waste feed cut-off and/or lock-out sequence specified in Condition VI.D.5.a.

VI.E. COMMON STACK FOR LIC, MPF, AND DFS

1. During the shakedown, trial burn, and post-trial burn periods, the Permittee shall install and maintain three ACAMS in the common stack. The instruments installed on the common stack will be configured so that two are alternating sampling and analysis and the third is in standby to replace either of the two active instruments in case one must be removed from service for any reason.

2. During the shakedown, trial burn, and post-trial burn periods, the exhaust gas monitoring systems specified in Condition VI.E.1., shall be calibrated, inspected and operated IAW the applicable elements of Conditions VI.A.2. and VI.A.3.

3. During the shakedown, trial burn, and post-trial burn periods, the chemical agent emission from the common stack, monitored as specified in Condition VI.E.2., shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

4. During the shakedown, trial burn, and post-trial burn periods, the waste feeds to all contributing incinerator(s) shall be automatically cut-off or lock-out when the chemical agent emission level in the common stack exceeds the values specified in Condition VI.E.3.

Table 6-1: Maximum Feed Rates to the LIC

Feed Stream	Shakedown, Trial Burn, and Post-Trial Burn [ROHA]		Shakedown, Trial Burn, and Post-Trial Burn [2MRA (Hourly/30)(1.1)][1]	
	Agent	Surrogate	Agent	Surrogate
Surrogate	---	1,015 lbs/hr	---	37 lbs/2-min
GB	1,015 lbs/hr	---	34.5 lbs/2-min	---
VX	675 lbs/hr	---	22.5 lbs/2-min	---
HD	1275 lbs/hr	---	46.8 lbs/2-min	---
HT	1275 lbs/hr	---	46.8 lbs/2-min	---
SDS, Laboratory, Aqueous Liquid Wastes	2,000 lbs/hr when not processing agent or 1,600 lbs/hr when processing agent	2,000 lbs/hr	---	---

Footnote:
1 The feedrates listed in this table are the intended limits to be demonstrated during the associated agent trial burns. AWFCO limitations are contained in Table 6-3.

Abbreviations:
2MRA.....2-minute rolling average
lbs/2-min.....pounds per 2-minute average
ROHA.....rolling hourly average
lbs/hr.....pounds per hour
LIC.....Liquid Incinerator
SDS.....spent decontamination solution

Table 6-2: Maximum Metals and Chlorine/Chloride Feed Rates to the LIC during Shakedown, Trial Burn, and Post-Trial Burn

Constituent	ROHA (lbs/hr)
Chlorine	519.0
Antimony	0.4577
Arsenic	0.0865
Barium	0.0693
Beryllium	0.0229
Boron	4.655
Cadmium	0.0229
Chromium	0.0343
Cobalt	0.0286
Copper	0.1264
Lead	2.928
Manganese	0.1020
Mercury	0.0179
Nickel	0.0696
Phosphorus	243.2
Selenium	0.0347
Silver	0.3647
Thallium	0.2286
Tin	0.8686
Vanadium	0.0347
Zinc	0.8524

Abbreviations:
lbs/hr.....pounds per hour
LIC.....Liquid Incinerator
ROHA.....rolling hourly average

Table 6-3: LIC AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn

Item No.	Tag Number	Process Data Description	AWFCO[1,4] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
LIC-01	TAHH-710	Primary Chamber Temperature High-High	2,750° F	2,750° F	2,750° F	2,900° F
LIC-02	TSLL-710	Primary Chamber Temperature Low-Low	2,475° F	2,475° F	2,475° F	2,400° F
LIC-03	TAHH-782	Secondary Chamber Temperature High-High	2,150° F	2,150° F	2,150° F	2,200° F
LIC-04	TSLL-782	Secondary Chamber Temperature Low-Low	1,850° F	1,850° F	1,850° F	1,800° F
LIC-05	PSHH-845	Primary Chamber Pressure High-High	-0.25 inwc	-0.25 inwc	-0.25 inwc	-0.25 inwc with 10 second delay
LIC-06	PSHH-896	Secondary Chamber Pressure High-High	-0.25 inwc	-0.25 inwc	-0.25 inwc	-0.25 inwc with 10 second delay
LIC-07	PDAH-855	Secondary Chamber Flue Gas Flow Rate High	0.7 inwc	0.7 inwc	0.7 inwc	0.7 inwc with 10 second delay
LIC-08	AAHH-778C	Exhaust Blower Duct Flue Gas CO Level High-High	100 ppm 7% O_2, dry basis ROHA	100 ppm 7% O_2, dry basis ROHA	100 ppm 7% O_2, dry basis ROHA	100 ppm 7% O_2, dry basis ROHA
LIC-09	AAHH-798A/B	Exhaust Blower Duct Flue Gas O_2 Concentration High-High	15% dry basis	15% dry basis	15% dry basis	15% dry basis
LIC-10	AALL-798A/B	Exhaust Blower Duct Flue Gas O_2 Concentration Low-Low	3% dry basis	3% dry basis	3% dry basis	3% dry basis
LIC-11	PSLL-737C	Primary Chamber Atomizing Air Pressure Low-Low	55 psig	55 psig	55 psig	55 psig
LIC-12	PSL-809	Secondary Chamber Atomizing Air Pressure Low	65 psig	65 psig	65 psig	65 psig
LIC-14	FAHH-731C	Feed Rate High-High 2MRA (hourly/30)(1.1)	47.3 lbs/2 min	25 lbs/2 min	37 lbs/2 min[2]	37 lbs/2 min
LIC-15	FAHH-731D	Feed Rate High-High ROHA	1,290 lbs/hr	740 lbs/hr	1,110 lbs/hr[2]	1,100 lbs/hr
LIC-16	FAHH-763	SDS Feed Rate High-High	1,600 lbs/hr			2,000 lbs/hr
LIC-17	PDALL-814	Venturi Scrubber Pressure Differential Low-Low	23 inwc	23 inwc	20 inwc	18 inwc

Table 6-3: LIC AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1,4] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
LIC-18	FALL-828	Venturi Scrubber Brine Flow Rate Low-Low	135 gpm with 10 second delay	135 gpm with 10 second delay	126 gpm with 10 second delay	126 gpm with 30 second delay
LIC-19	DAHH-835	Venturi Scrubber Brine Density High-High	1.20 sgu	1.20 sgu	1.28 sgu	1.28 sgu
LIC-20	FALL-825	Scrubber Tower Clean Liquor Flow Rate Low-Low	600 gpm	600 gpm	600 gpm	540 gpm
LIC-21	AALL-832	Scrubber Tower pH Low-Low	7.28	7.28	6.5	6.5
LIC-22	TSHH-800	Quench Tower Flue Gas Temperature High-High	215° F	215° F	215° F	215° F
LIC-23	PALL-170	Scrubber Tower Clean Liquor Pressure Low-Low	25 psig	25 psig	25 psig	25 psig
LIC-24	LSHH-02/06	Brine Surge Tank Level High-High	219 inches	219 inches	219 inches	18 feet 3 inches
LIC-25	PSLL-760	Chemical Agent Feed Pressure Low-Low	5 psig	5 psig	5 psig	Not applicable
LIC-26	ACAM-134	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	Not applicable	Not applicable	0.0003 mg/m^3	Not applicable
LIC-27	ACAM-134	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	Not applicable	Not applicable	0.00006 mg/m^3	Not applicable
LIC-28	ACAM-129 ACAM-225 ACAM-223	Chemical Agent Emissions High-High Instantaneous (Common Stack)	Not applicable	Not applicable	0.0003 mg/m^3	Not Applicable
LIC-29	ACAM-129 ACAM-225 ACAM-223	Chemical Agent Emissions High-High ROHA (Common Stack)	Not applicable	Not applicable	0.00006 mg/m^3	Not Applicable
LIC-30[3]	TAHH-433	PFS Carbon Filter Inlet Exhaust Gas Temperature High-High	180° F	180° F	180° F	Not Applicable
LIC-31[3]	PDAH-436B PDAH-438B PDAH-487B	PFS HEPA Filter Inlet Pressure Drop High	5 inwc	5 inwc	5 inwc	Not Applicable
LIC-32[3]	PDAH-436E PDAH-438E PDAH-487E	PFS HEPA Filter Outlet Pressure Drop High	5 inwc	5 inwc	5 inwc	Not Applicable

Table 6-3: LIC AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1,4] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
LIC-33	ACAM-911-SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	Not Applicable	0.0003 mg/m^3	Not Applicable	Not Applicable
LIC-34	ACAM-911-SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	Not Applicable	0.00006 mg/m^3	Not Applicable	Not Applicable
LIC-35	ACAM-904-SC ACAM-905-SC ACAM-906-SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	Not Applicable	0.0003 mg/m^3	Not Applicable	Not Applicable
LIC-36	ACAM-904-SC ACAM-905-SC ACAM-906-SC	Chemical Agent Emissions High-High ROHA (Common Stack)	Not Applicable	0.00006mg/m^3	Not Applicable	Not Applicable
LIC-37	ACAM-134	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	0.03 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable
LIC-38	ACAM-134	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	0.006 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable
LIC-39	ACAM-923-SC ACAM-924-SC ACAM-925-SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	0.03 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable
LIC-40	ACAM-923-SC ACAM-924-SC ACAM-925-SC	Chemical Agent Emissions High-High ROHA (Common Stack)	0.006mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable

Footnotes:

(1) All values are instantaneous unless otherwise noted.

(2) Post-trial burn feed rate to be reduced to Table 6-1 limits within 24 hours of the conclusion of the trial burn period.

(3) Stop feed parameters only apply to the on-line PFS unit. PDAH-436B and E are installed within PFS-FILT-209 and will be the primary monitoring devices. ANCDF configuration allows for ducting of combustion gases from the LIC through the MPF PFS or the common spare PFS. As such, PDAH-438B and E or PDAH-487B and E will be the units of measure in the event that the exhaust from the LIC is being channeled through any of the other filter units.

(4) All setpoints from this table will be used until submittal of the agent trial burn report, and then the most conservative setpoints from either this table or the report will be used as per MACT regulation 40 CFR 63.1207(j)(ii).

Table 6-3: LIC AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn (Continued)

Abbreviations:

%.....percent
AAHH.....analyzer alarm high-high
AIT .....analyzer indicator transmitter
AWFCO.....automatic waste feed cut-off
FAHH .....flow alarm high-high
gpm .....gallons per minute
inwc .....inches of water column
lbs/hr .....pounds per hour
LSHH.....level switch high-high
MPF .....Metal Parts Furnace
PALL .....pressure alarm high-high
PDAH .....pressure differential alarm high
PFS .....Pollution Abatement System Filtration System
PSHH .....pressure switch high-high
PSL .....pressure switch low
RCRA .....Resource Conservation and Recovery Act
SDS.....spent decontamination solution
TAHH .....temperature alarm high-high
2MRA.....2-minute rolling average
°F ..... degrees Fahrenheit
AALL ..... analyzer alarm low-low
ANCDF..... Anniston Chemical Agent Disposal Facility
CO ..... carbon monoxide
FALL ..... flow alarm low-low
HEPA..... high efficiency particulate air
lbs/2-min..... pounds per 2-minute average
LIC..... Liquid Incinerator
mg/m^3 ..... milligrams per cubic meter
O_2 ..... oxygen
PDAH ..... pressure differential alarm high
PDALL ..... pressure differential alarm low-low
ppm..... parts per million
psig ..... pounds per square inch gauge
PSLL..... pressure switch low-low
ROHA..... rolling hourly average
sgu ..... specific gravity unit
TSLL ..... temperature switch low-low

Table 6-4: Maximum Feed Rates of Secondary Waste to the MPF during Agent Shakedown, Trial Burn, and Post-Trial Burn

Secondary Waste Type	Max Units per Charge	Feed Interval per Charge[1] (min)	Max Weight per Charge (lbs)
Chlorine	---	90	93
Organic Material	---	90	335
Sludge	---	90	---[2]
Embedded Metals	---	90	1,920
BTU value (MM)	4	90	---

Footnotes:
(1) Time required in Zones 1 and 2 or as specified in VI.C.3.j.
(2) Sludge to be fed in containment pans, spread to a depth no greater than 1.5 inches.

Abbreviations:
BTU .....British thermal unit
MM.....million
MPF .....Metal Parts Furnace
lbs .....pounds
min.....minutes

Table 6-5: Maximum Munition Feed Rates to the MPF during Agent Shakedown, Trial Burn, and Post-Trial Burn

Munition Type	Agent Type	Max Units per Tray	Feed Interval per Tray[a] (min)	Max Weight per Tray[b] (lbs)	Maximum Feed Rate (lbs/hr)[d]		
					VX	GB	HD/HT
M121A1 Proj., 155MM	VX	48	35	16.5	28.3	---	---
M121A1/M122 Proj., 155MM[c]	GB	48	35	---	---	148	---
M426 Proj., 8-inch	GB	27	35	---	---	148	---
M360 Proj., 105MM	GB	96	35	---	---	148	---
M2/M2A1 Proj., 4.2-inch (Condition 1 – proposed)	HD/HT	96	25	83.5	---	---	200.4
M2/M2A1 Proj., 4.2-inch (Condition 2 – 75% demonstrated)	HD/HT	96	60	540.9	---	---	600
M60 Proj., 105MM	HD	96	68	285	---	---	251.5
M110 Proj., 155MM	HD	48	80	562	---	---	421.5
Ton Container	HD	1	125	0 to ≤ 220	---	---	105.6
Ton Container	HD	1	140	>220 to ≤ 450	---	---	192.9
Ton Container	HD	1	165	>450 to ≤ 600	---	---	218.2

Footnotes:
(a) Time required in Zones 1 and 2 or as specified in VI.C.3.k.
(b) Agent only, does not include the weight of the base, tray, or munition bodies.
(c) Not to exceed 25% agent heel per munition. Permit Condition VI.C.2 feed rates shall also apply.
(d) The feedrates listed in this table are the intended limits to be demonstrated during the associated agent trial burns. AWFCO limitations are contained in Table 6-7. The instantaneous Maximum Feed Rate in pounds per hour is calculated by Max Weight per Tray (lbs) x 1 tray/feed interval (min) x 60 min/hr.

Abbreviations:
--- ..... not applicable
lbs ..... pounds
min ..... minutes
MPF ..... Metal Parts Furnace
% ..... percent
lbs/hr ..... pounds per hour
MM ..... millimeter

Table 6-6: Maximum Metals and Chlorine/Chloride Feed Rates to the MPF during Shakedown, Trial Burn, and Post-Trial Burn

Constituent	ROHA (lbs/hr)
Chlorine	312(1)
Antimony	0.9262(2)
Arsenic	0.2856(2)
Barium	11.37(2)
Beryllium	0.0167(2)
Boron	2.037(2)
Cadmium	5.862(2)
Chromium	3.277(2)
Cobalt	0.0418(2)
Copper	2.050(2)
Lead	20.51(2)
Manganese	0.7416(2)
Mercury	0.0583(2)
Nickel	5.862(2)
Phosphorus	60.8
Selenium	0.0508(2)
Silver	0.7323(2)
Thallium	0.0083(2)
Tin	0.1733(2)
Vanadium	0.0167(2)
Zinc	0.3702(2)

Footnotes:
(1) Maximum chlorine feed rate for munitions. Secondary waste chlorine maximum feed rates per Table 6-4 is 93 lbs/WIC.
(2) Feed Rates do not include embedded metal from such items as munition bodies.

Abbreviations:
lbs .....pounds
lbs/hr.....pounds per hour
MPF.....Metal Parts Furnace
ROHA.....rolling hourly average
WIC .....waste incineration container

Table 6-7: MPF AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn

Item No.	Tag Number	Process Data Description	AWFCO[1,4] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
MPF-01	TAHH-152	Primary Chamber Zone 1 Temperature High-High	1,705 ° F	1,705 ° F	1,705 ° F	1,800 ° F
MPF-02	TALL-152	Primary Chamber Zone 1 Temperature Low-Low [2]	1,175 ° F	1,175 ° F	1,125 ° F	1,000 ° F
MPF-03	TAHH-141	Primary Chamber Zone 2 Temperature High-High	1,705 ° F	1,705 ° F	1,705 ° F	1,800 ° F
MPF-04	TALL-141	Primary Chamber Zone 2 Temperature Low-Low [2]	1,175 ° F	1,175 ° F	1,125 ° F	1,000 ° F
MPF-05	TAHH-153	Primary Chamber Zone 3 Temperature High-High	1,705 ° F	1,705 ° F	1,705 ° F	1,800 ° F
MPF-06	TALL-153	Primary Chamber Zone 3 Temperature Low-Low [2]	1,175° F	1,175° F	1,125 ° F	1,000 ° F
MPF-07	TAHH-87	Afterburner Temperature High-High	2,250 ° F	2,150 ° F	2,150 ° F	2,150 ° F
MPF-08	TSLL-87	Afterburner Temperature Low-Low	1,772 ° F	1,772 ° F	1,720 ° F	1,600 ° F
MPF-09	PSHH-34	Primary Chamber Pressure High-High	-0.1 inwc	-0.1 inwc	-0.1 inwc	-0.1 inwc
MPF-10	PSHH-390	Afterburner Pressure High-High	-0.1 inwc	-0.1 inwc	-0.1 inwc	-0.1 inwc
MPF-11	PDAHH-786	Afterburner Flue Gas Flow Rate High-High	0.5 inwc	0.5 inwc	0.5 inwc	1.5 inwc
MPF-12	AAHH-384C	Exhaust Blower Duct Flue Gas CO Level High-High	100ppm 7% O_2, dry basis ROHA	100ppm 7% O_2, dry basis ROHA	100ppm 7% O_2, dry basis ROHA	100ppm 7% O_2, dry basis ROHA
MPF-13	AAHH-81A/B	Exhaust Blower Duct Flue Gas O_2 Concentration High-High	15% dry basis	15% dry basis	15% dry basis	15% dry basis
MPF-14	AALL-81A/B	Exhaust Blower Duct Flue Gas O_2 Concentration Low-Low	3% dry basis	3% dry basis	3% dry basis	3% dry basis
MPF-15	Programmed Feed Permissive	Munitions Feed Rate High	Condition 1: 220 lbs/hr Condition 2: 704 lbs/hr	16.5 lbs/tray	300 lbs/hr [M426 Proj., 8-inch (GB)]	730 lbs/hr Surrogate
		Secondary Waste Feed Rate High	Chlorine: 93 lbs/ WIC Organic Material: 335 lbs/WIC Sludge: 1.5 inches in containment pan Embedded Metals: 1,920 lbs/WIC BTU: 4.0 MM/WIC			3,300 lbs/hr SWLM

Table 6-7: MPF AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1,4] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
MPF-16	PDALL-222	Venturi Scrubber Pressure Differential Low-Low	25 inwc	25 inwc	25 inwc	18 inwc
MPF-17	FALL-218	Venturi Scrubber Brine Flow Rate Low-Low	130 gpm with 10-second delay	130 gpm with 10-second delay	130 gpm with 10-second delay	126 gpm with 30-second delay
MPF-18	DAHH-216	Venturi Scrubber Brine Density High-High	1.24 sgu	1.10 sgu	1.28 sgu	1.28 sgu
MPF-19	FALL-248	Scrubber Tower Clean Liquor Flow Rate Low-Low	600 gpm	600 gpm	600 gpm	540 gpm
MPF-20	AALL-247	Scrubber Tower pH Low-Low	7.12	7.12	6.5	6.5
MPF-21	BSLL-883 BSLL-884 BSLL-885 BSLL-886 BSLL-887 BSLL-888 BSLL-889 BSLL-890 BSLL-891 BSLL-892	Primary Chamber Flame Loss Low-Low	Zone 1 all burners out or 2 burners out and the zone temperature less than 1,400° F Zone 2 all burners out or 2 burners out and zone temperature less than 1,400° F Zone 3 both burners out or 1 burner out and zone temperature less than 1,400° F.			
MPF-22	TSHH-223	Quench Tower Flue Gas Temperature High- High	215 ° F	215 ° F	215 ° F	215 ° F
MPF-23	PALL-358	Scrubber Tower Clean Liquor Pressure Low-Low	25 psig	25 psig	25 psig	25 psig
MPF-24	LSHH-02/06	Brine Surge Tanks Level High-High	219 inches	219 inches	219 inches	219 inches
MPF-25	ACAM-167 ACAM-907	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	Not Applicable	Not Applicable	0.0003 mg/m^3 GB	Not Applicable
MPF-26	ACAM-167 ACAM-907	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	Not Applicable	Not Applicable	0.00006 mg/m^3 GB	Not Applicable
MPF-27	ACAM-129 ACAM-225 ACAM-223	Chemical Agent Emissions High-High Instantaneous (Common Stack)	Not Applicable	Not Applicable	0.0003 mg/m^3 GB	Not Applicable
MPF-28	ACAM-129 ACAM-225 ACAM-223	Chemical Agent Emissions High-High ROHA (Common Stack)	Not Applicable	Not Applicable	0.00006 mg/m^3 GB	Not Applicable

Table 6-7: MPF AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1,4] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
MPF-29	TAHH-097	PFS Carbon Filter Exhaust Gas Temperature High-High	180 ° F	180 ° F	180 ° F	Not Applicable
MPF-30[3]	PDAH-436B PDAH-438B PDAH-487B	PFS HEPA Filter Inlet Pressure Drop High	5 inwc	5 inwc	5 inwc	Not Applicable
MPF-31[3]	PDAH-436E PDAH-438E PDAH-487E	PFS HEPA Filter Outlet Pressure Drop High	5 inwc	5 inwc	5 inwc	Not Applicable
MPF-32[5]	ACAM-401A (Cool-Down Conveyor Enclosure)	Chemical Agent Emissions High-High Instantaneous	Not Applicable	Not Applicable	0.0003 mg/m^3 GB	Not Applicable
MPF-33[5]	ACAM-401-SC (Cool-Down Conveyor Enclosure)	Chemical Agent Emissions High-High Instantaneous	Not Applicable	0.0003 mg/m^3 VX	Not Applicable	Not Applicable
MPF-34	ACAM-908-SC ACAM-909-SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	Not Applicable	0.0003 mg/m^3 VX	Not Applicable	Not Applicable
MPF-35	ACAM-908-SC ACAM-909-SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	Not Applicable	0.00006 mg/m^3 VX	Not Applicable	Not Applicable
MPF-36	ACAM-904-SC ACAM-905-SC ACAM-906-SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	Not Applicable	0.0003 mg/m^3 VX	Not Applicable	Not Applicable
MPF-37	ACAM-904-SC ACAM-905-SC ACAM-906-SC	Chemical Agent Emissions High-High ROHA (Common Stack)	Not Applicable	0.00006 mg/m^3 VX	Not Applicable	Not Applicable
MPF-38	ACAM-932-SC ACAM-933-SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	0.03 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable
MPF-39	ACAM-932-SC ACAM-933-SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	0.006 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable
MPF-40	ACAM-923-SC ACAM-924-SC ACAM-925-SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	0.03 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable
MPF-41	ACAM-923-SC ACAM-924-SC ACAM-925-SC	Chemical Agent Emissions High-High ROHA (Common Stack)	0.006 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable

Table 6-7: MPF AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn (Continued)

Item No.	Tag Number	Process Data Description	AWFCO(1,4) Setpoints			
			HD/HT ATB	HD/HT ATB	HD/HT ATB	HD/HT ATB
MPF-42	ACAM-401A (Cool-Down Conveyor Enclosure)	Chemical Agent Emissions High-High Instantaneous	0.03 mg/m^3 HD/HT	Not Applicable	Not Applicable	Not Applicable

Footnotes:
(1) All values are instantaneous unless otherwise noted.
(2) In the event of an AWFCO, all zone timers will be reset.
(3) Stop feed parameters only apply to the on-line PFS unit. PDAH-438B and E are installed within PFS-FILT-111 and will be the primary monitoring devices. ANCDF configuration allows for ducting of combustion gases from the MPF through the LIC PFS or the common spare PFS. As such, PDAH-436B and E or PDAH-487B and E will be the units of measure in the event that the exhaust from the MPF is being channeled through any of the other filter units.
(4) All setpoints from this table will be used until submittal of the agent trial burn report, and then the most conservative setpoints from either this table or the report will be used as per MACT regulation 40 CFR 63.1207(j)(ii).
(5) The ACAMS may be taken off-line during processing in accordance with VI.C.5.d.

Abbreviations:
%..... percent
AAHH..... analyzer alarm high-high
AIT ..... analyzer indicator transmitter
AWFCO..... automatic waste feed cut-off
FAHH ..... flow alarm high-high
gpm ..... gallons per minute
inwc ..... inches of water column
lbs/hr ..... pounds per hour
LSHH..... level switch high-high
MPF ..... Metal Parts Furnace
PALL ..... pressure alarm high-high
PDAH ..... pressure differential alarm high
PFS ..... Pollution Abatement System Filtration System
PSHH..... pressure switch high-high
PSL ..... pressure switch low
RCRA ..... Resource Conservation and Recovery Act
SDS..... spent decontamination solution
SWLM ..... secondary waste-like material
TSLL.....temperature switch low-low
°F.....degrees Fahrenheit
AALL.....analyzer alarm low-low
ANCDF.....Anniston Chemical Agent Disposal Facility
CO.....carbon monoxide
FALL.....flow alarm low-low
HEPA .....high efficiency particulate air
lbs/2-min .....pounds per 2-minute average
LIC .....Liquid Incinerator
mg/m^3.....milligrams per cubic meter
O_2.. .....oxygen
PDAH.....pressure differential alarm high
PDALL.....pressure differential alarm low-low
ppm .....parts per million
psig .....pounds per square inch gauge
PSLL .....pressure switch low-low
ROHA .....rolling hourly average
sgu. .....specific gravity unit
TAHH.....temperature alarm high-high

Table 6-8: Maximum Munition Feed Rates to the DFS during Agent Shakedown, Trial Burn, and Post-Trial Burn

Munition Type	Agent Type	Max Units per Hour	Min Feed Interval (sec)	Maximum Feed Rate (lbs/hr)			
				VX[f]	GB	EXPLOSIVES	PROPELLANTS
M55/56 Rocket	GB	40[a]/14	90[a]/106	---	50[b,c]/149.8	123.5	767.7
M55/56 Rocket	VX	34	---	17	---	108.8	656.2
M121A1 Proj., 155MM	VX	---	---	---	---	635.25	---
M121A1/M122 Proj., 155MM	GB	---	---	---	---	374[d]	---
M426 Proj., 8-inch	GB	---	---	---	---	416.1	---
M360 Proj., 105MM	GB	---	---	---	---	337[d]	---
M2/M2A1 Proj., 4.2-inch	HD/HT	[g]	[g]	---	---	[g]	---
M60 Proj., 105MM	HD	[g]	[g]	---	---	[g]	---
M110 Proj., 155MM	HD	[g]	[g]	---	---	[g]	---
M23 Landmine	VX	60[e]	60[e]	31.5[e]	---	58[e]	---
Explosive Contaminated Solids	---	---	---	17/31.5[e]	149.8	123.5	767.7
Explosive Contaminated Sludges	---	---	---	17/31.5[e]	105.8	123.5	767.7

Footnotes:

(a) Feed rate of drained or gelled rockets during GB agent shakedown and trial burn (drained/gelled). M55 rockets that are suspected to be gelled (based on inventory of lot numbers) shall not be fed to the DFS during the post-trial burn condition.

(b) Maximum feed rate during agent shakedown and trial burn periods of the drainable rocket condition shall be 50 lbs/hr. Maximum feed rate during agent shakedown and trial burn periods of the gelled rocket condition shall be 149.8 lbs/hr.

(c) Maximum post-trial burn feed rate for all conditions shall be limited by Condition VI.D.2.

(d) TNT equivalent.

(e) Should a VX ATB need to be re-conducted with an insufficient inventory of M55 rockets, the M23 landmines will be utilized for retesting purposes. If a M23 landmine contingency ATB is not necessary, an additional DFS VX DRE landmine ATB will be performed to re-establish a munition and VX agent feed rate using M23 landmines.

(f) Agent weight only.

(g) Mustard agents HD/HT will not be fed to the DFS during the HD/HT trial burn operations. If mustard contaminated components are encountered, they will be treated within the DFS kiln at sufficient time and temperature requirements as to ensure 5X decontamination is achieved in accordance with VII.D.4.k.

Table 6-8: Maximum Munition Feed Rates to the DFS during Agent Shakedown, Trial Burn, and Post-Trial Burn (continued)

Abbreviations:

--- ..... not applicable
DFS ..... Deactivation Furnace System
sec ..... seconds
ATB ..... agent trial burn
lbs/hr ..... pounds per hour
TNT ..... trinitrotoluene

Table 6-9: Maximum Metals and Chlorine/Chloride Feed Rates to the DFS during Shakedown, Trial Burn, and Post-Trial Burn

Constituent	ROHA (lbs/hr)
Chlorine	88.3
Antimony	1.132(1)
Arsenic	0.2005(1)
Barium	6.154(1)
Beryllium	0.0051(1)
Boron	11.526(1)
Cadmium	3.190(1)
Chromium	1.856(1)
Cobalt	0.0246(1)
Copper	0.2933(1)
Lead	19.36(1)
Manganese	0.2509(1)
Mercury	0.0036(1)
Nickel	3.331(1)
Phosphorus	33.12
Selenium	0.0344(1)
Silver	0.0138(1)
Thallium	0.0069(1)
Tin	0.1341(1)
Vanadium	0.0344(1)
Zinc	0.6869(1)

Footnote:
(1) Feed rates do not include embedded metal from such items as munition bodies.

Abbreviations:
lbs/hr.....pounds per hour
DFS.....Deactivation Furnace System
ROHA.....rolling hourly average

Table 6-10: DFS AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn

Item No.	Tag Number	Process Data Description	AWFCO[1,3] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
DFS-01	TAHH-182	Rotary Kiln Temperature High-High	(5)	1,650° F	1,650° F	1,950° F
DFS-02	TALL-182	Rotary Kiln Temperature Low-Low	(5)	965° F	950° F	950° F
DFS-03	TAHH-92	Afterburner Temperature High-High	(5)	2,160° F	2,160° F	2,160° F
DFS-04	TALL-92	Afterburner Temperature Low-Low	(5)	1,850° F	1,850° F	1,850° F
DFS-05	PSHH-204	Rotary Kiln Pressure High-High	(5)	-0.1 inwc with 5 second delay	-0.1 inwc with 5 second delay	-0.1 inwc with 5 second delay
DFS-06	PAH-65	Afterburner Pressure High	(5)	-0.1 inwc	-0.1 inwc	-0.1 inwc
DFS-07	PDAH-813	Afterburner Flue Gas Flow Rate High	(5)	1.0 inwc	1.0 inwc	1.0 inwc
DFS-08	AAHH-59C	Exhaust Blower Duct Flue Gas CO Level High-High	(5)	100 ppm, 7% O_2 dry basis ROHA	100 ppm, 7% O_2 dry basis ROHA	100 ppm, 7% O_2 dry basis ROHA
DFS-09	AAHH-175A/B	Exhaust Blower Duct Flue Gas O_2 Concentration High-High	(5)	15% dry basis	15% dry basis	15% dry basis
DFS-10	AALL-175A/B	Exhaust Blower Duct Flue Gas O_2 Concentration Low-Low	(5)	3% dry basis	3% dry basis	3% dry basis
DFS-11	TALL-184	DC (Upper) Temperature Low-Low	Not Applicable [4]	1,000° F	1,000° F	1,000° F
DFS-12	TALL-42	DC (Lower) Temperature Low-Low	Not Applicable [4]	1,000° F	1,000° F	1,000° F
DFS-13	PLC Software	Munitions Feed Rate High-High	(5)	Rockets 19 lbs/hr and/or 36 rockets/hr Mines 34.7 lbs/hr and/or 66 mines/hr	Condition 1 40 Rockets/hr (M55) or 50 lbs/hr Condition 2 14 Rockets/hr (M55) or 149.8 lbs/hr	382.0 lbs/hr
DFS-14	PDALL-08	Venturi Scrubber Pressure Differential Low-Low	(5)	25 inwc	25 inwc	18 inwc
DFS-15	FAL-06	Venturi Scrubber Brine Flow Rate Low	(5)	300 gpm with 10 second delay	300 gpm with 10 second delay	275 gpm with 30 second delay
DFS-16	DAHH-33	Venturi Scrubber Brine Density High-High	(5)	1.20 sgu	1.28 sgu	1.28 sgu
DFS-17	FALL-30	Scrubber Tower Clean Liquor Flow Rate Low-Low	(5)	1,635 gpm	1,635 gpm	1,575 gpm
DFS-18	AALL-34	Scrubber Tower pH Low-Low	(5)	7.48	6.5	6.5
DFS-19	TAHH-51A/B/C/D/E	Rotary Kiln Shell Temperature High-High	(5)	1,600° F	1,600° F	1,600° F

Table 6-10: DFS AWFCO Parameters during Shakedown, Trial Burn, and Post-Trial Burn (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1,3] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
DFS-20	SAHH-602	Rotary Kiln Rotational Speed High-High	(5)	2 rpm	2 rpm	2 rpm
DFS-21	SALL-602	Rotary Kiln Rotational Speed Low-Low	(5)	0.33 rpm	0.33 rpm	0.33 rpm
DFS-22	XS-58/821	DC Operation (jam)	Not Applicable [4]	Sensor blocked with 10 second delay	Sensor blocked with 10 second delay	Sensor blocked with 10 second delay
DFS-23	SAL-57	DC Operation (no motion)	Not Applicable[4]	No motion	No motion	No motion
DFS-24	XS-207/209	Feed Chute Operation	(5)	Sensor blocked with 10 second delay	Sensor blocked with 10 second delay	Sensor blocked with 10 second delay
DFS-25	TSHH-01	Quench Tower Flue Gas Temperature High-High	(5)	215° F	215° F	215° F
DFS-26	PALL-344	Scrubber Tower Clean Liquor Pressure Low-Low	(5)	25 psig	25 psig	25 psig
DFS-27	LSHH-02/06	Brine Surge Tanks Level High-High	(5)	219 inches	219 inches	18 feet 3 inches
DFS-28	ACAM-297	Chemical Agent Emissions High-High Instantaneous (Cyclone Enclosure)	(5)	0.00006 mg/m^3	Not Applicable	Not Applicable
DFS-29	ACAM-183 ACAM-910-SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	(5)	0.0003 mg/m^3	Not Applicable	Not Applicable
DFS-30	ACAM-183 ACAM-910-SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	(5)	0.00006 mg/m^3	Not Applicable	Not Applicable
DFS-31	ACAM-904-SC ACAM-905-SC ACAM-906-SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	(5)	0.0003 mg/m^3	Not Applicable	Not Applicable
DFS-32	ACAM-904-SC ACAM-905-SC ACAM-906-SC	Chemical Agent Emissions High-High ROHA (Common Stack)	(5)	0.00006 mg/m^3	Not Applicable	Not Applicable
DFS-33	TAHH-430	PFS Carbon Filter Exhaust Gas Temperature High-High	(5)	180° F	180° F	Not Applicable
DFS-34	PDAH-436B PDAH-438B PDAH-440B PDAH-442B PDAH-487B	PFS HEPA Filter Inlet Pressure Drop High	(5)	5 inwc	5 inwc	Not Applicable
DFS-35	PDAH-436E PDAH-438E PDAH-440E PDAH-442D PDAH-487E	PFS HEPA Filter Outlet Pressure Drop High	(5)	5 inwc	5 inwc	Not Applicable

TABLE 6-10: DFS AWFCO PARAMETERS DURING SHAKEDOWN, TRIAL BURN, AND POST-TRIAL BURN (CONTINUED)

Item No.	Tag Number	Process Data Description	AWFCO[1,3] Setpoints			
			HD/HT ATB	VX ATB	GB ATB	STB
DFS-36	ACAM-365	Chemical Agent Emissions High-High Instantaneous (DC Bin Enclosure Area)	(5)	0.0003 mg/m^3	Not Applicable	Not Applicable

Footnotes:

(1) All values instantaneous unless otherwise noted.

(2) Stop feed parameters only apply to the on-line PFS unit. PDAH-440B and E and PDAH-442B and E are installed within PFS-FILT-111 and -112 and will be the primary monitoring devices. ANCDF configuration allows for ducting of combustion gases from the DFS through any of the PFS units. As such, PDAH-436B and E, PDAH-438B and E, or PDAH-487B and E will be the units of measure in the event that the exhaust from the DFS is being channeled through any of the other filter units.

(3) All setpoints from this table will be used until submittal of the agent trial burn report, and then the most conservative setpoints from either this table or the report will be used as per MACT regulation 40 CFR 63.1207(j)(ii).

(4) The Discharge Conveyor will not be heated during the mustard campaign, but shall remain heated during both the GB and VX campaigns. Mustard contaminated components within the kiln will be processed for greater than 15 minutes at 1000° F.

(5) HD/HT ATB AWFCO Parameters are listed in Table 7-9 as the DFS will not conduct agent trial burn operations for HD/HT.

Abbreviations:

%..... percent
AAHH ..... analyzer alarm high-high
AIT ..... analyzer indicator transmitter
AWFCO... automatic waste feed cut-off
FAHH ..... flow alarm high-high
gpm..... gallons per minute
inwc ..... inches of water column
lbs/hr..... pounds per hour
LSHH..... level switch high-high
MPF..... Metal Parts Furnace
PALL ..... pressure alarm high-high
PDAH ..... pressure differential alarm high
PFS ..... Pollution Abatement System Filtration System
PSHH..... pressure switch high-high
PSL ..... pressure switch low
RCRA ..... Resource Conservation and Recovery Act
SDS..... spent decontamination solution
TAHH ..... temperature alarm high-high
°F..... degrees Fahrenheit
AALL ..... analyzer alarm low-low
ANCDF ... Anniston Chemical Agent Disposal Facility
CO ..... carbon monoxide
FALL..... flow alarm low-low
HEPA ..... high efficiency particulate air
lbs/2-min . pounds per 2-minute average
LIC ..... Liquid Incinerator
mg/m^3..... milligrams per cubic meter
O_2..... oxygen
PDAH..... pressure differential alarm high
PDALL.... pressure differential alarm low-low
ppm..... parts per million
psig..... pounds per square inch gauge
PSLL ..... pressure switch low-low
ROHA ..... rolling hourly average
sgu..... specific gravity unit
TSLL ..... temperature switch low-low

MODULE VII: INCINERATION – NORMAL OPERATION

TABLE OF CONTENTS **PAGE**

VII.A. GENERAL CONDITIONS FOR ALL INCINERATORS AT THE ANCDF SITE 3

1. REQUIREMENTS FOR ENTERING NORMAL OPERATION 3
2. LIMITATION ON WASTE FEED 3
3. INSPECTION REQUIREMENTS 3
4. MONITORING REQUIREMENTS 4
5. REPORTING 4
6. CLOSURE 5
7. RECORDING 5

VII.B. LIQUID INCINERATOR 5

1. MAINTENANCE 5
2. PERFORMANCE STANDARDS 6
3. LIMITATION ON WASTE FEED 8
4. OPERATING CONDITIONS 8
5. MONITORING REQUIREMENTS 9
6. WASTE FEED CUT-OFF REQUIREMENTS 9

VII.C. METAL PARTS FURNACE 10

1. MAINTENANCE 10
2. PERFORMANCE STANDARDS 10
3. LIMITATION ON WASTE FEED 12
4. OPERATING CONDITIONS 16
5. MONITORING REQUIREMENTS 17
6. WASTE FEED CUT-OFF REQUIREMENTS 17
7. CLOSURE 18

VII.D. DEACTIVATION FURNACE SYSTEM 18

1. MAINTENANCE 18
2. PERFORMANCE STANDARDS 19
3. LIMITATION ON WASTE FEED 21
4. OPERATING CONDITIONS 22
5. MONITORING REQUIREMENTS 24
6. WASTE FEED CUT-OFF REQUIREMENTS 24

VII.E. COMMON STACK FOR LIC, MPF, AND DFS 24

LIST OF TABLES **PAGE**

TABLE 7-1: MAXIMUM FEED RATES TO THE LIC DURING NORMAL AGENT OPERATIONS 26

TABLE 7-2: LIC AWFCO PARAMETERS DURING NORMAL AGENT OPERATIONS 27

TABLE 7-3: LIC SYSTEM INSTRUMENT AND PROCESS PARAMETERS 32

TABLE 7-4: MAXIMUM FEED RATES OF MUNITIONS TO THE MPF DURING NORMAL AGENT OPERATIONS 37

TABLE 7-5: MAXIMUM FEED RATES OF SECONDARY WASTE TO THE MPF DURING NORMAL AGENT OPERATIONS 38

TABLE 7-6: MPF AWFCO PARAMETERS DURING NORMAL AGENT OPERATIONS 39

TABLE 7-7: MPF SYSTEM INSTRUMENT AND PROCESS PARAMETERS 46

TABLE 7-8: MAXIMUM FEED RATES OF MUNITIONS TO THE DFS DURING NORMAL AGENT OPERATIONS 51

TABLE 7-9: DFS AWFCO PARAMETERS DURING NORMAL AGENT OPERATIONS 52

TABLE 7-10: DFS SYSTEM INSTRUMENT AND PROCESS PARAMETERS 58

MODULE VII: INCINERATION - NORMAL OPERATION

Three types of incinerators are used to deactivate and destroy the components of the waste generated from the CSDP – LIC, MPF, and DFS. All of these incinerators are new and each one is provided with a PAS. One exhaust stack is shared by the LIC, MPF, and DFS (hereafter referred to as "common stack").

Liquid chemical agents drained from munitions, liquid laboratory wastes, and SDS are incinerated in the LIC. Explosives, propellants, and explosive contaminated solids and sludges are incinerated in the DFS. In general, metal parts and a variety of secondary waste streams are decontaminated and detoxified in the MPF.

This module covers the incineration normal operation periods. For clarity, this module is organized as follows:

- Section VII.A. - Conditions applicable to all incinerators
- Section VII.B. - Liquid Incinerator
- Section VII.C. - Metal Parts Furnace
- Section VII.D. - Deactivation Furnace System
- Section VII.E. - Combined Stack for the LIC, MPF, and DFS

VII.A. GENERAL CONDITIONS FOR ALL INCINERATORS AT THE ANCDF SITE

1. Requirements for Entering Normal Operation

Prior to commencing normal operations provided for in Module VII, all requirements provided in Module VI shall have been met by the Permittee and approved by the Department, the trial burn results and the HRA provided for in Condition II.N. shall have been evaluated and approved by the Department, and the applicable numerical values represented with an asterisk (*) in the conditions and tables of Module VII shall have been established.

2. Limitation on Waste Feed

The Permittee shall not incinerate any chemical agent, or any waste containing the chemical agent, in which treatment has not been successfully demonstrated through a chemical agent trial burn IAW Module VI.

3. Inspection Requirements

a. The Permittee shall inspect each incinerator IAW the Inspection Schedule (see Section III F-2 of the Application).

b. The inspection data for each incinerator shall be recorded, and the records shall be placed in the operating record for the respective incinerator IAW Condition II.I.

4. **Monitoring Requirements**

a. Upon receipt of a written request from the Department, the Permittee shall perform sampling and analysis of the waste and exhaust emissions to verify that the operating requirements established achieve the performance standards delineated in this Permit.

b. All monitoring, recording, maintenance, calibration, and test data shall be recorded and the records for each incinerator shall be placed in the operating record for each respective incinerator IAW Condition II.I.

c. The Permittee shall calibrate the O_2 and CO CEMS specified in this Permit IAW the Performance Specifications for Continuous Emission Monitoring Systems referenced by AAC 335-3-11-.06[56].

5. **Reporting**

a. The Permittee shall submit to the Department an annual report which summarizes the QA/QC reliability problems experienced with HCl and chemical agent stack gas monitors and, (for periods in which such ambient air monitoring was required), ambient air mustard agent monitors during the previous year. This summary report shall include, but not be limited to, the following:

i. Identification of the monitor experiencing the problem;

ii. Identification of the type of problem (e.g., borderline or deficient recoveries);

iii. Date problem experienced;

iv. Frequency of problem; and

v. Corrective action implemented to correct the problem, and whether or not or to what degree the corrective action was successful.

b. The Permittee shall submit a report of all quarterly CEM Calibration Error and annual CEM Performance Specification Tests conducted IAW VII.A.4.c. within 60 calendar days of the date of the tests.

c. A quarterly report as defined below will be submitted to the Director each calendar quarter within 30 days following the end of the quarter. The report will include the following information (all times in hours) (operating time does not include standby):

i. Total operating time since introduction of agent in device,

ii. Operating time in quarter (by Month, which is defined as rolling 12 month total),

iii. Date/time of all startups and shutdowns,

iv. Date/time/duration/cause/corrective action taken for all shutdowns caused by malfunction of either process or control equipment,

v. Date/time/duration/cause/corrective action taken for all instances of waste feed cut-off,

vi. A calculation of the site specific upset factor(s) derived from ANCDF facility operating data using the methodology described by the Risk Assessment Protocol. The value of the site specific upset factor shall be compared to that value used in the Preliminary Risk Assessment (PRA) Report. If the actual facility upset factor is greater than that value used in the PRA Report, than a RAA shall also be submitted to the Department which describes any potential increase in risk.

6. Closure

At closure, the Permittee shall follow the procedures in the Closure Plan, Section III I of the Application as revised IAW Condition II.J.3.

7. Recording

a. The Permittee shall record and maintain, in the operating record for each incinerator, all monitoring and inspection data compiled under the requirements of Condition II.I.

b. The Permittee shall record in the operating record the date, time, and duration of all AWFCOs, including the triggering parameters, reason for the deviation, and corrective measures taken to prevent recurrence of the incident. The Permittee shall also record all incidents of the AWFCO function failures, including the corrective measures taken to correct the condition that caused the failure.

VII.B. LIQUID INCINERATOR

The LIC shall be used to burn liquid wastes. The LIC is provided with a PAS that includes a quench tower, venturi scrubber, packed-bed scrubber tower, clean liquor air coolers, demister, gas-fired reheater, and carbon bed filter. Both combustion chambers of the LIC are refractory-lined and are equipped with natural gas burners which are used to preheat and to maintain the required combustion temperature in each chamber while burning the liquid wastes. The stack emissions shall be monitored for the presence of chemical agents and other emissions. The LIC shall shut down automatically when the monitor detects the presence of chemical agent at the ASC level, see Condition VII.B.2.g.

1. Maintenance

a. All process monitors required, pursuant to Condition VII.B.4., shall be equipped with alarms operated to warn of deviation, or imminent deviation, from the limits specified in Condition VII.B.4.

b. The Permittee shall test all process monitoring and control instrumentation for the LIC IAW the design plans in Section III D-5 of the Application, specifications approved by the Department, and IAW the calibration, performance specifications, and maintenance procedures contained in Table 7-3 prior to treating hazardous waste in the LIC.

c. Modifications to the design plans and specifications in the Application for all incinerators shall be allowed only IAW Condition II.A.2.

d. The Permittee shall maintain the LIC such that, when operated IAW the operating requirements specified in this Permit, it shall meet the performance standards specified in Conditions VII.B.2.a. through g.

e. All air pollution control devices and capture systems for which this Permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

2. <u>Performance Standards</u>

a. The LIC must achieve and maintain a DRE of 99.9999% for the chemical agent. The DRE shall be calculated by the method specified in AAC 335-14-5-.15(4)(a)1.

b. The PM emissions from the common stack, corrected to 7% O_2 IAW the formula given below (AAC 335-14-5-.15(4)(c)), shall not exceed 0.013 grains/dscf.

$$P_c = P_m \times 14/(21 - Y)$$

Where: P_c = corrected concentration of PM

P_m = measured concentration of PM

Y = measured O_2 concentration in the stack gas

c. The HCl emission from the LIC shall not exceed 5.99E-03 g/s. The HCl emission limit shall be met by limiting the feed rate of chlorine/chloride into the LIC as specified in Condition VII.B.3.c.

d. The following metal emission rates from the LIC shall not be exceeded:

Antimony	6.44E-05 g/s	Arsenic	9.73E-05 g/s
Barium	6.44E-05 g/s	Beryllium	1.29E-05 g/s
Boron	1.70E-03 g/s	Cadmium	1.61E-05 g/s
Chromium	1.88E-05 g/s	Cobalt	3.22E-05 g/s
Copper	3.22E-05 g/s	Lead	1.98E-04 g/s
Manganese	2.47E-03 g/s	Mercury	3.08E-05 g/s

Nickel	3.22E-05 g/s	Phosphorous	2.54E-03 g/s
Selenium	3.30E-05 g/s	Silver	6.44E-05 g/s
Thallium	6.44E-06 g/s	Tin	1.22E-04 g/s
Vanadium	3.83E-05 g/s	Zinc	9.96E-04 g/s

The above emission limits shall be met by limiting the feed rate of each metal into the LIC as specified in Condition VII.B.3.c.

e. The following emission rates from the LIC shall not be exceeded:

HCl	5.99E-03 g/s	Cl_2	5.99E-03 g/s
HF	1.21E-02 g/s	Tetra CDD	3.32E-11 g/s
Penta CDD	1.66E-10 g/s	Hexa CDD	4.98E-10 g/s
Hepta CDD	1.66E-10 g/s	Octa CDD	3.32E-10 g/s
Tetra CDF	4.81E-11 g/s	Penta CDF	3.32E-10 g/s
Hexa CDF	6.64E-10 g/s	Hepta CDF	4.68E-10 g/s
Octa CDF	3.32E-10 g/s	Benzene	1.36E-04 g/s
Vinyl Chloride	1.82E-05 g/s		

The above emission limits shall be met by limiting the overall feed rate into the LIC.

f. The Permittee shall control emissions of PICs from the common stack such that the CO level in the common stack, corrected to 7% O_2 IAW the formula given below, shall not exceed 100 ppm, dry volume, over a ROHA.

$$CO_c = CO_m \times (21 - 7)/(21 - O_m)$$

Where: Co_c = corrected CO ppm

Co_m = measured CO ppm

O_m = measured % O_2

g. The Permittee shall monitor emissions of chemical agents being treated from the LIC using an ACAMS installed in the duct work feeding the common stack. The emission levels shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

h. Compliance with the operating conditions specified in Condition VII.B.4., shall be regarded as compliance with the required performance standards

identified in Conditions VII.B.2.a. through g. However, if it is determined during the effective period of this Permit that compliance with the operating conditions in Condition VII.B.4. is not sufficient to ensure compliance with the performance standards specified in Conditions VII.B.2.a. through g., the Permit may be modified, revoked, or reissued, pursuant to AAC 335-14-8-.04(2) or (3).

3. Limitation on Waste Feed

a. Except during the short-term periods specified in Conditions VI.B. for shakedown, trial burn, and post-trial burn, the Permittee shall incinerate the hazardous wastes in the LIC, as specified in Table 7-1, in compliance with the operating requirements specified in Condition VII.B.4.

b. The SDS and laboratory aqueous liquid waste shall be fed only into the secondary combustion chamber of the LIC with, or without, the chemical agent feed to the LIC primary combustion chamber.

c. The feed rates of metal and chlorine to the LIC based on a ROHA shall not exceed the following limits:

Antimony	0.4577 lbs/hr	Arsenic	0.0865 lbs/hr
Barium	0.0693 lbs/hr	Beryllium	0.0229 lbs/hr
Boron	4.655 lbs/hr	Cadmium	0.0229 lbs/hr
Chromium	0.0343 lbs/hr	Cobalt	0.0286 lbs/hr
Copper	0.1264 lbs/hr	Lead	2.928 lbs/hr
Manganese	0.1020 lbs/r	Mercury	0.0179 lbs/hr
Nickel	0.0696 lbs/hr	Phosphorus	243.2 lbs/hr
Selenium	0.0347 lbs/hr	Silver	0.3647 lbs/hr
Thallium	0.2286 lbs/hr	Tin	0.8686 lbs/hr
Vanadium	0.0347 lbs/hr	Zinc	0.8524 lbs/hr
Chlorine	519.0 lbs/hr		

d. The Permittee shall conduct sufficient analysis of the waste treated in the LIC to verify that the waste feed is within the physical and chemical composition limits specified in this Permit, IAW the Waste Analysis Plan (see Application Section III C-2).

e. Only one chemical agent shall be fed to the LIC, at any given time.

4. Operating Conditions

a. During normal operations, the Permittee shall operate the LIC in order to maintain the system and process parameters within the ranges or setpoints specified in Table 7-3.

b. During normal operations, the Permittee shall operate the AWFCO systems, specified in Table 7-2, to automatically cut-off and/or lock-out the hazardous waste feed to the LIC when the monitored operating conditions deviate from the setpoints specified in Table 7-2 based on the agent type being processed.

c. The Permittee shall not burn chemical agent in the primary combustion chamber of the LIC until the primary and secondary combustion chambers are within the operating parameters in Conditions VII.B.4.a. and b.

d. During startup, with the secondary combustion chamber temperature less than 1,400°F, the Permittee shall not burn fuel in or purge the primary combustion chamber of the LIC until agent concentration within the LIC primary chamber room is below 1 ASC.

5. <u>Monitoring Requirements</u>

a. The Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment, as specified in Tables 7-2 and 7-3, while incinerating hazardous waste.

b. Hazardous wastes shall not be fed to the LIC if any of the monitoring instruments listed in Tables 7-2 and 7-3 fail to operate properly.

6. <u>Waste Feed Cut-Off Requirements</u>

a. The Permittee shall operate the systems, specified in Table 7-2, to automatically cut-off and/or lock-out the hazardous waste feed to the LIC when the monitored operating conditions deviate from the setpoints specified in Table 7-2. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

b. In the event of a malfunction of the AWFCO systems listed in Table 7-2, the Permittee shall immediately, manually, cut-off and/or lock-out the waste feed. The Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

c. The Permittee shall manually cut-off and/or lock-out the waste feed when the operating conditions deviate from the limits specified in Condition VII.B.4. unless the deviation automatically activates the waste feed cut-off and/or lock-out sequence specified in Condition VII.B.6.a.

d. If the number of AWFCOs from an individual parameter on Table 7-2 for the LIC is activated greater than twice within any operating day, the Permittee shall be required to, at a minimum, verbally provide to the

Department the information required in Condition VII.A.7.b. by the close of the following business day.

VII.C. METAL PARTS FURNACE

The MPF treats projectiles, bulk items, and a variety of secondary waste IAW Section III C-2 of the Application. No explosives are fed to the MPF. The MPF is a direct-fired, roller-hearth furnace with an afterburner. The chemical agent-contaminated metals parts or munitions and bulk items containing chemical agent are placed on trays and conveyed through the heated furnace to be detoxified of chemical agents. Secondary waste is placed on trays, WICs, and/or containment devices and conveyed through the furnace for thermal treatment. The vaporized chemical agents from the metal parts undergo thermal destruction in the furnace and the afterburner. The PAS is of similar design to that of the LIC, and is comprised of a quench tower, venturi scrubber, packed scrubber tower, clean liquor air coolers, demister, gas-fired reheater, and carbon bed.

1. Maintenance

a. All process monitors required, pursuant to Condition VII.C.4., shall be equipped with alarms operated to warn of deviation, or imminent deviation, from the limits specified in Condition VII.C.4.

b. The Permittee shall test all process monitoring and control instrumentation for the MPF IAW the design plans in Section III D-6 of the Application, specifications approved by the Department, and IAW the calibration, performance specifications and maintenance procedures contained in Table 7-7 prior to treating hazardous waste in the MPF.

c. Modifications to the design plans and specifications in the ANCDF Application for all incinerators shall be allowed only IAW Condition II.A.2.

d. The Permittee shall maintain the MPF such that, when operated IAW the operating requirements specified in this Permit, it shall meet the performance standards specified in Conditions VII.C.2.a. through g.

2. Performance Standards

a. The MPF shall achieve and maintain a DRE of 99.9999% for the chemical agent. The DRE shall be calculated by the method specified in AAC 335-14-5-.15(4)(a)1.

b. The PM emissions from the common stack, corrected to 7% O_2 IAW the formula given below (AAC 335-14-5-.15(4)(c)), shall not exceed 0.013 grains/dscf.

$$P_c = P_m \times 14/(21 - Y)$$

Where: P_c = corrected concentration of PM

P_m = measured concentration of PM

Y = measured O_2 concentration in the stack gas

c. The HCl emissions from the MPF shall not exceed 8.18 E-03 g/s. The HCl emission limit shall be met by limiting the feed rate of chlorine/chloride into the MPF as specified in Condition VII.C.3.b.

d. The following metal emission rates from the MPF shall not be exceeded:

Antimony	1.19 E-04 g/s	Arsenic	8.52 E-05 g/s
Barium	2.95 E-04 g/s	Beryllium	2.38 E-05 g/s
Boron	2.29 E-03 g/s	Cadmium	7.30 E-05 g/s
Chromium	8.62 E-05 g/s	Cobalt	5.95 E-05 g/s
Copper	5.95 E-05 g/s	Lead	1.82 E-04 g/s
Manganese	1.57 E-03 g/s	Mercury	4.29 E-05 g/s
Nickel	1.46 E-04 g/s	Phosphorous	1.16 E-03 g/s
Selenium	7.23 E-05 g/s	Silver	1.19 E-04 g/s
Thallium	1.19 E-05 g/s	Tin	1.19 E-04 g/s
Vanadium	2.38 E-05 g/s	Zinc	2.09 E-04 g/s

The above emission limits shall be met by limiting the feed rate of each metal into the MPF as specified in Conditions VII.C.3.b.

e. The following emission rates from the MPF shall not be exceeded:

HCl	8.18 E-03 g/s	Cl_2	2.58 E-02 g/s
HF	1.93 E-02 g/s	Tetra CDD	9.17 E-11 g/s
Penta CDD	4.58 E-10 g/s	Hexa CDD	4.58 E-10 g/s
Hepta CDD	4.58 E-10 g/s	Octa CDD	9.77 E-10 g/s
Tetra CDF	9.17 E-11 g/s	Penta CDD	7.64 E-10 g/s
Hexa CDF	1.20 E-09 g/s	Hepta CDD	2.28 E-09 g/s
Octa CDF	1.36 E-09 g/s	Benzene	3.16 E-04 g/s
Vinyl Chloride	5.66 E-05 g/s		

The above emission limits shall be met by limiting the overall feed rate into the MPF.

f. The Permittee shall control emissions of PICs from the common stack such that the CO level in the common stack, corrected to 7% O_2 IAW the formula given below shall not exceed 100 ppm, dry volume, over a ROHA.

$$CO_c = CO_m \times (21 - 7)/(21 - O_m)$$

Where: Co_c = corrected CO ppm

Co_m = measured CO ppm

O_m = measured % O_2

g. The Permittee shall monitor emissions of chemical agents being treated from the MPF using an ACAMS installed in the duct work feeding the common stack. The emission level shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

h. Compliance with the operating conditions specified in Condition VII.C.4., shall be regarded as compliance with the required performance standards identified in Conditions VII.C.2.a. through g. However, if it is determined that during the effective period of this Permit that compliance with the operating conditions in Conditions VII.C.4., is not sufficient to ensure compliance with the performance standards specified in Conditions VII.C.2.a. through g., the Permit may be modified, revoked, or reissued, pursuant to AAC 335-14-8-.04(2) or (3).

3. Limitation on Waste Feed

a. Except during the short-term periods specified in Conditions VI.C. for shakedown, trial burn, and post-trial burn, the Permittee shall incinerate the following hazardous wastes in the MPF, as specified in Tables 7-4 and 7-5, in compliance with the operating requirements specified in Condition VII.C.4.

b. The feed rates of metal and chlorine to the MPF based on a ROHA shall not exceed the following limits:

Antimony	0.9262 lb/hr	Arsenic	0.2856 lb/hr
Barium	11.37 lb/hr	Beryllium	0.0167 lb/hr
Boron	2.037 lb/hr	Cadmium	5.862 lb/hr
Chromium	3.277 lb/hr	Cobalt	0.0418 lb/hr
Copper	2.050 lb/hr	Lead	20.51 lb/hr
Manganese	0.7416 lb/hr	Mercury	0.0583 lb/hr
Nickel	5.862 lb/hr	Phosphorous	60.8 lb/hr
Selenium	0.0508 lb/hr	Silver	0.7323 lb/hr
Thallium	0.0083 lb/hr	Tin	0.1733 lb/hr
Vanadium	0.0167 lb/hr	Zinc	0.3702 lb/hr
Cl_2	312.0 lb/hr		

c. Throughout operation, the Permittee shall conduct sufficient analysis of the waste treated in the MPF to verify that the waste feed is within the physical and chemical composition limits specified in this Permit, IAW the Waste Analysis Plan (see Application Section III C-2).

d. The hourly feed rate of the residual chemical agent contained in the MPF feed, which was calculated based on the estimated drain from each munition type and from the amount of chemical agent in the munitions, shall not exceed the limits provided in Table 7-6 and Condition VII.C.3.a., unless the following conditions are met:

i. The Permittee has provided the Department verbal notice of the following:

(I) The detection of a munition/ton container that cannot be drained to below the maximum feed rates as set forth in Table 7-6, indicating its type and its location (i.e., process line leading to furnace, temporary holding location).

(II) The amount of chemical agent heel remaining in the munition.

(III) Efforts expended to facilitate additional draining of the munition.

ii. The Permittee has provided the Department written procedures for processing of the munition that cannot be drained below the maximum feed rates as set forth in Table 7-6. These procedures must be consistent with the following:

(I) The temperature and residence time in Zones 1, 2, and 3 shall be specified based on the development of a vaporization curve and calculations for the munition type and the quantity and type of residual chemical agent remaining. The supporting vaporization curve and calculations shall be provided with the procedures to the Department.

(II) The temperature maintained in the afterburner shall be IAW Table 7-6 and Condition VII.C.3.a.

iii. The Permittee receives approved procedures from the Department for processing the munition that cannot be drained below the maximum feed rates as set forth in Table 7-6.

e. Trays/WICs/containment devices containing secondary waste shall be prepared IAW limits in Condition VII.3.a. In addition, they shall comply with the following requirements:

i. Each tray/WIC/containment device shall contain only one type of waste (e.g., metal parts, wood, PPE, absorbent materials, sludge, etc.), or

ii. If waste types are combined in a single tray/WIC/containment device;

(I) Bulk metal shall be considered to be a metal item with less than 10% combustible material or aluminum integrated into the piece.

(II) Rubblized concrete, refractory, and scabbled concrete shall be processed in WIC's containing pans and heat transfer fins, and shall be filled to a maximum depth of 7 inches.

(III) Sludge shall be processed in trays/WICs/containment devices to a depth no greater than 1.5 inches and shall not be fed in combination with any other waste.

(IV) Bulk combustible waste is any combustible waste that is not polyethylene, polystyrene, or halogenated plastic. When WICs are used to process bulk combustibles, metal pans shall be placed in the WICs and,

1. Waste shall be placed in the WIC loosely packed in plastic bags or spread evenly in the WIC. Wastes shall not be rolled or bunched.

2. Wood and other dense combustible items shall be placed towards the top of loaded WICs.

3. Toxicological agents protective (TAP) gear and Life Support System (LSS) air hoses shall not be processed together in the same WIC.

4. M-40 masks shall be limited to one (1) mask per WIC.

5. M-40 respirator cartridges shall be limited to 2 cartridges per WIC unless the cartridges are opened, exposing the cartridge interior prior to loading.

(V) All non-munition wastes that envelop an interior space (e.g., gauges, cans, escape air tanks, overpacks, glassware, etc.) must be opened or punctured before being placed in the MPF.

iii. The Permittee shall prepare an inventory/feed sheet of all secondary waste contents in each tray/WIC/containment device; to contain an inventory of each waste type, including weight, Btu value of each waste type, chlorine, and metal contents.

f. Munitions and secondary waste shall not be fed to the MPF at the same time.

g. In the event of a low temperature related AWFCO while processing trays/WICs/containment devices in the primary chamber of the MPF, forward zone movement of trays/WICs shall be governed as follows:

i. Trays containing ton containers, or WICs containing bulk combustibles (defined as any combustible waste that is not polyethylene, polystyrene or halogenated plastics), or bulk wastes containing interior or enveloping spaces (i.e., pumps, gauges) will either be held in position, moved forward to the MPF Discharge Airlock awaiting return to the furnace to complete the necessary treatment cycle, or returned to the charge airlock or lower munitions corridor awaiting return to the furnace for treatment.

ii. Trays containing munitions or WICs containing secondary waste other than those identified in VII.C.3.g.i above will be assessed in accordance with the treatment requirements identified in Tables 7-4 and 7-5 for the respective waste or munition type. Trays/WICs that have completed the entirety of the residence time identified in Tables 7-4 and 7-5, regardless of the Zone in which the treatment occurred, will be transferred to the MPF Discharge Airlock for monitoring and discharge in accordance with this Permit. Trays/WICs that have not completed the required residence times will be managed in accordance with the requirements specified in VII.C.3.g.i above.

When furnace conditions are returned to operating parameters listed in Table 7-6, all zone timers shall be reset to zero (0) and no forward zone movement shall occur until the residence times listed in Tables 7-4 and 7-5 are completed.

h. In the event of an ACAMS alarm in the MPF Cool-Down Conveyor Enclosure, the Permittee shall immediately:

i. Cease hazardous waste feed into the charge airlock and out of the discharge airlock of the MPF.

ii. Automatically secure the cool-down enclosure louvered discharge fans.

iii. Secure the enclosure area doors.

iv. Vent the enclosure through ducting into the LIC 1 Secondary Room and thus through the MDB HVAC.

v. Analyze DAAMS from all monitoring stations within the Cool-Down Conveyor Enclosure for the time period up to and including the ACAMS alarm, and

(I) If the alarm is determined to be non-confirmed/false positive via DAAMS analysis, then waste feed may be restarted upon return to the operating parameters listed in Table 7-6.

(II) If the alarm is confirmed to be agent, waste feed shall not restart until all requirements in Condition II.H. are met.

(III) Normal operations and waste feed may be restarted after completion of the requirements in Condition VII.3.h.v.(II) and upon return to operating parameters listed in Table 7-6.

vi. Identify the tray/WIC/containment device that initiated the alarm and return it to the MPF for further treatment or overpack and process through the TMA.

i. Only one chemical agent munition type shall be fed to the MPF, at any given time.

4. <u>Operating Conditions</u>

a. During normal operations, the Permittee shall operate the MPF in order to maintain the system and process parameters within the ranges or setpoints specified in Table 7-7.

b. During normal operations, the Permittee shall operate the AWFCO systems, specified in Table 7-6, to automatically cut-off and/or lock-out the hazardous waste feed to the MPF when the monitored operating conditions deviate from the setpoints specified in Table 7-6 based on the agent type being processed.

c. Only one loaded tray containing the waste materials shall be fed into the MPF at any given time, with a minimum interval between each tray feed as specified in Condition VII.C.3.a.

d. The Permittee shall not burn chemical agent in the primary combustion chamber of the MPF until the primary chamber and afterburner are within the operating parameters in Conditions VII.C.4.a. and b.

e. During startup, with the afterburner temperature less than 1,400° F, the Permittee shall not burn fuel in or purge the primary chamber of the MPF until agent concentration within the MPF primary chamber room is below 1 ASC.

5. **Monitoring Requirements**

a. The Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment, as specified in Tables 7-6 and 7-7, while incinerating hazardous waste.

b. Hazardous wastes shall not be fed to the MPF if any of the monitoring instruments listed in Tables 7-6 and 7-7 fails to operate properly.

6. **Waste Feed Cut-Off Requirements**

a. The Permittee shall operate the systems, specified in Table 7-6, to automatically cut-off and/or lock-out the hazardous waste feed to the MPF when the monitored operating conditions deviate from the setpoint specified in Table 7-6. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

b. In the event of a malfunction of the AWFCO systems listed in Table 7-6, the Permittee shall immediately, manually, cut-off and/or lock-out the waste feed. The Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected. Waste feed may not restart until all parameter(s) which caused the waste feed cut-off or lock-out is/are restored to within the permit limits and all other parameters are also within permit limits.

c. The Permittee shall manually cut-off and/or lock-out the waste feed when the operating conditions deviate from the limits specified in Condition VII.C.4., unless the deviation automatically activates the waste feed cut-off and/or lock-out sequence specified in Condition VII.C.6.a.

d. If the number of AWFCOs from an individual parameter on Table 7-6 for the MPF is activated more than twice within any operating day, the Permittee shall be required to, at a minimum, verbally provide to the Department the information required in Condition VII.A.7.b. by the close of the following business day.

e. During the shakedown, trial burn, and post-trial burn periods, the ACAMS monitoring the exhaust from the Metal parts Furnace Cool-Down Conveyor Enclosure (MPF-32 and MPF-33) may be operated as follows:

i. During the treatment of munitions or waste, the ACAMS may be taken off-line to perform maintenance or calibration under the following conditions:

I. No waste will be discharged from the MPF Discharge Airlock while the ACAMS are off-line.

II. Secondary waste meeting the definition of sludge has not been discharged from the MPF during a 1-hour period prior to taking the ACAMS off-line, and

III. No waste will be removed from the Cool-Down Conveyor Enclosure until the ACAMS has been returned to service and has been in operation for a period of at least 15-minutes.

ii. If the maintenance or calibration activities fail to return the ACAMS to service within two hours of taking the instrument off-line, no additional feed will be charged to the MPF until such time as the ACAMS has been returned to service.

7. <u>Closure</u>

a. All scabbling of concrete outside the MPF area must be completed and processed before securing the MPF.

b. The facility shall certify to the Department in writing that all agent contaminated materials such as filters, scabbled concrete, secondary waste, which require decontamination in the MPF according to the closure plan, have been processed, and obtain written Departmental concurrence with this certification, prior to MPF final shutdown.

c. The facility shall notify the Department in writing once the MPF has been dismantled and the ability to process waste on site is no longer available. Shipping of any demolition waste that does not meet the disposal requirements in the WAP must have written Departmental approval before being shipped off-site.

VII.D. DEACTIVATION FURNACE SYSTEM

The DFS incinerates fuzes, explosives and propellants from drained rockets, mines and other munitions and explosive contaminated solids and sludges. The DFS consists of a rotary kiln, a cyclone, and an afterburner. The chemical agent-contaminated or noncontaminated, highly reactive and explosive materials are fed into the retort and deactivated while the vaporized chemical agents undergo thermal destruction in the retort as well as in the afterburner. The PAS is of similar design to that of the LIC and MPF, and consists of a quench tower, venturi scrubber, packed scrubber tower, clean liquor air coolers, gas-fired reheater, demister, and carbon bed filter.

1. <u>Maintenance</u>

a. All process monitors required, pursuant to Condition VII.D.4., shall be equipped with alarms operated to warn of deviation, or imminent deviation, from the limits specified in Condition VII.D.4.

b. The Permittee shall test all process monitoring and control instrumentation for the DFS IAW the design plans in Section D-7 of the ANCDF Application, specifications approved by the Department, and IAW the calibration, performance specifications, and maintenance procedures contained in Table 7-10, prior to handling hazardous waste in the DFS.

c. Modifications to the design plans and specifications in the ANCDF Application for all incinerators shall be allowed only IAW Condition II.A.2.

d. The Permittee shall maintain the DFS such that when operated, IAW the operating requirements specified in this Permit, it shall meet the performance standards specified in Conditions VII.D.2.a. through g.

2. <u>Performance Standards</u>

a. The DFS must achieve and maintain a DRE of 99.9999% for the chemical agent. The DRE shall be calculated by the method specified in AAC 335-14-5-.15(4)(a)1.

b. The PM emissions from the common stack, corrected to 7% O_2 IAW the formula given below (AAC 335-14-5-.15(4)(c)), shall not exceed 0.013 grains/dscf.

$$P_c = P_m \times 14/(21 - Y)$$

Where: P_c = corrected concentration of PM

P_m = measured concentration of PM

Y = measured O_2 concentration in the stack gas

c. The HCl emissions from the DFS shall not exceed 8.46E-03 g/s. The HCl emission limit shall be met by limiting the feed rate of chlorine/chloride into the DFS as specified in Conditions VII.D.3.b.

d. The following metal emission rates from the DFS shall not be exceeded:

Antimony	1.53E-04 g/s	Arsenic	4.41E-05 g/s
Barium	8.82E-05 g/s	Beryllium	6.50E-06 g/s
Boron	1.95E-03 g/s	Cadmium	1.96E-05 g/s
Chromium	5.10E-05 g/s	Cobalt	1.76E-05 g/s
Copper	5.64E-05 g/s	Lead	5.21E-04 g/s
Manganese	4.42E-03 g/s	Mercury	1.54E-05 g/s
Nickel	3.20E-05 g/s	Phosphorous	1.18E-03 g/s
Selenium	4.41E-05 g/s	Silver	1.76E-05 g/s
Thallium	8.82E-06 g/s	Tin	1.80E-04 g/s
Vanadium	4.41E-05 g/s	Zinc	9.45E-04 g/s

The metal emission limits shall be met by limiting the feed rate of each metal into the DFS as specified in Condition VII.D.3.b.

e. The organic emission rates from the DFS shall not be exceeded:

HCl	8.46E-03 g/s	Cl_2	9.09E-03 g/s
HF	1.77E-02 g/s	Tetra CDD	5.71E-11 g/s
Penta CDD	2.85E-10 g/s	Hexa CDD	8.55E-10 g/s
Hepta CDD	6.11E-10 g/s	Octa CDD	1.23E-09 g/s
Tetra CDF	1.87E-10 g/s	Penta CDF	6.10E-10 g/s
Hexa CDF	1.25E-09 g/s	Hepta CDF	7.27E-10 g/s
Octa CDF	5.71E-10 g/s	Benzene	2.30E-04 g/s
Vinyl Chloride	1.37E-05 g/s	Nitroglycerine	3.34E-05 g/s
2,4-Dintirotoluene	1.47E-05 g/s	2,6-Dinitrotoluene	1.47E-05 g/s
2,4,6-Trinitrotoluene	4.04E-05 g/s	Diphenylamine	2.90E-05 g/s
RDX	3.59E-05 g/s	HMX	2.71E-06 g/s

The above emission limits shall be met by limiting the overall feed rate into the DFS.

f. The Permittee shall control emissions of PICs from the common stack such that the CO level in the common stack, corrected to 7% O_2 IAW the formula given below shall, not exceed 100 ppm, dry volume, over a ROHA.

$$Co_c = CO_m \times (21 - 7)/(21 - O_m)$$

Where: Co_c = corrected CO ppm

Co_m = measured CO ppm

O_m = measured % O_2

g. The Permittee shall monitor emissions of chemical agents being treated from the DFS using an ACAMS installed in the duct work feeding the common stack. The emission levels shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

h. Compliance with the operating conditions specified in Condition VII.D.4., shall be regarded as compliance with the required performance standards identified in Conditions VII.D.2.a. through g. However, if it is determined that during the effective period of this Permit that compliance with the operating conditions in Conditions VII.D.4., is not sufficient to ensure compliance with the performance standards specified in Conditions VII.D.2.a. through g., the Permit may be modified, revoked, or reissued, pursuant to AAC 335-14-8-.04(2) or (3).

3. <u>Limitation on Waste Feed</u>

a. Except during the short-term periods specified in Condition VI.D. for shakedown, trial burn, and post-trial burn, the Permittee shall incinerate only the hazardous wastes in the DFS, as specified in Table 7-8, in compliance with the operating requirements specified in Condition VII.D.4.

b. The feed rate of metals and chlorine to the DFS based on a ROHA shall not exceed the following limits:

Antimony	1.132 lbs/hr	Arsenic	0.2005 lbs/hr
Barium	6.154 lbs/hr	Beryllium	0.0051 lbs/hr
Boron	11.526 lbs/hr	Cadmium	3.190 lbs/hr
Chromium	1.856 lbs/hr	Cobalt	0.0246 lbs/hr
Copper	0.2933 lbs/hr	Lead	19.36 lbs/hr
Manganese	0.2509 lbs/hr	Mercury	0.0036 lbs/hr
Nickel	3.331 lbs/hr	Phosphorous	33.12 lbs/hr
Selenium	0.0344 lbs/hr	Silver	0.0138 lbs/hr
Thallium	0.0069 lbs/hr	Tin	0.1341 lbs/hr
Vanadium	0.0344 lbs/hr	Zinc	0.6869 lbs/hr
Cl	88.3 lbs/hr		

c. Throughout operation, the Permittee shall conduct sufficient analysis of the waste treated in the DFS to verify that the waste feed is within the physical and chemical composition limits specified in this Permit, IAW the Waste Analysis Plan (see Application Section III C-2).

d. Only one chemical agent, or waste containing one chemical agent, shall be fed to the DFS, at any given time.

4. **Operating Conditions**

a. During normal operations, the Permittee shall operate the DFS in order to maintain the system and process parameters within the ranges or setpoints specified in Table 7-10.

b. During normal operations, the Permittee shall operate the AWFCO systems, specified in Table 7-9, to automatically cut-off and/or lock-out the hazardous waste feed to the DFS when the monitored operating conditions deviate from the setpoints specified in Table 7-9 based on the agent type being processed.

c. The rate of movement to the discharge conveyor shall be controlled during the GB and VX campaigns so as to provide a minimum solid retention time of 15 minutes inside the heated enclosure. Since the discharge conveyor will not be heated during the mustard campaign, this requirement will be met by either reducing the kiln speed or by placing the kiln in oscillation to ensure the treatment cycle is satisfied. This is only required for mustard contaminated components within the kiln.

d. The rocket shear blade shall be sprayed with SDS or PRW at all times when a rocket piece is at the blast gate and the shear blade is in operation; or at all times when a rocket piece is at the blast gate and the gate is jammed. The flow rate of SDS or PRW to the rocket shear blade shall be continuously monitored and recorded during rocket processing operations.

e. A time delay of 30 seconds shall be provided for feeding M55 rocket sections before and after feeding fuses to the DFS, with the exception that the tailfins from the previous rocket and nose plugs can be fed with the fuses.

f. The Permittee shall not burn chemical agent in the rotary kiln of the DFS until the rotary kiln and afterburner are within the operating parameters in Conditions VII.D.4.a. and b.

g. During startup, with the afterburner temperature less than 1,400°F, the Permittee shall not burn fuel in or purge the rotary kiln of the DFS until agent concentration within the DFS rotary kiln room is below 1 ASC.

h. The Permittee shall continue to operate the burners in the primary combustion chamber of the DFS for at least 21 minutes after feed to the DFS has ceased.

i. In the event of an ACAMS alarm in the DC Bin Enclosure which occurs while the enclosure door is closed and the enclosure is under engineering controls, the Permittee shall immediately:

   i. Stop waste feed,

   ii. Place DFS kiln in oscillate mode,

iii. Stop DC motion, and

iv. Recover and analyze DAAMS tubes.

(I) If the alarm is determined to be non-confirmed/false positive via DAAMS analysis, then normal operations and waste feed may be restarted upon return to the operating parameters listed in Table 7-9.

(II) If the alarm is confirmed to be agent, the DC bin must be handled IAW 1X DC bin change-out procedures and transferred to the TMA for sample collection and analysis. This characterization will determine ultimate disposal of the DC bin contents.

(III) Normal operations and waste feed may be restarted after completion of the requirements in Condition VII.4.i.iv.(II) and upon return to the operating parameters listed in Table 7-9.

j. In the event of an ACAMS alarm in the DC Bin Enclosure which occurs while the enclosure door is open or the enclosure is otherwise not under engineering controls, the Permittee shall immediately:

i. Stop waste feed,

ii. Place DFS kiln in oscillate mode,

iii. Stop DC motion, and

iv. Recover and analyze the associated DAAMS monitors.

(I) If the alarm is determined to be non-confirmed/false positive via DAAMS analysis, then normal operations and waste feed may be restarted upon return to the operating parameters listed in Table 7-9.

(II) If the alarm is confirmed to be agent, the DC bin must be handled IAW 1X DC bin change-out procedures and transferred to the TMA for sample collection and analysis. This characterization will determine ultimate disposal of the DC bin contents.

(III) If the alarm is confirmed to be agent, waste feed shall not restart until all requirements in Condition II.H. are met.

(IV) Normal operations and waste feed may be restarted after completion of the requirements in Conditions VI.3.xi.d.(II) and (III) and upon return to the operating parameters listed in Table 7-9.

k. In the event waste is charged to the DFS that has been contaminated with HD/HT, the permittee will ensure the waste is contained within the confines of the rotary kiln to ensure destruction of the agent prior to discharge from the kiln to the DC.

5. **Monitoring Requirements**

a. The Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment, as specified in Tables 7-9 and 7-10, while incinerating hazardous waste.

b. Hazardous wastes shall not be fed to the DFS if any of the monitoring instruments listed in Tables 7-9 and 7-10 fail to operate properly.

6. **Waste Feed Cut-Off Requirements**

a. The Permittee shall operate the systems, specified in Table 7-9, to automatically cut-off and/or lock-out the hazardous waste feed to the DFS when the monitored operating conditions deviate from the setpoint specified in the Table 7-9. Waste feed may not restart until the parameter(s) which caused the feed cut-off or lock-out is/are restored to permit limits and all other parameters are within permit limits.

b. In case of a malfunction of the AWFCO systems listed in Table 7-9, the Permittee shall immediately, manually cut-off and/or lock-out the waste feed. The Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected. Waste feed may not restart until all parameters specified in Table 7-9 are restored to within permit limits and all other parameters are within permit limits.

c. The Permittee shall manually cut-off and/or lock-out the waste feed when the operating conditions deviate from the limits specified in Condition VII.D.4. unless the deviation automatically activates the waste feed cut-off and/or lock-out sequence specified in Condition VII.D.6.a.

d. If the number of AWFCOs from an individual parameter on Table 7-9 for the DFS is activated greater than twice within any operating day, the Permittee shall be required to, at a minimum, verbally provide to the Department the information required in Condition VII.A.7.b. by the close of the following business day.

VII.E. COMMON STACK FOR LIC, MPF, AND DFS

1. The Permittee shall maintain three ACAMS for the current agent campaign in the common stack. The instruments installed on the common stack will be configured so that two are alternating sampling and analysis and the third is in standby to replace either of the two active instruments in case one must be removed from service for any reason. Additionally, the facility will be required to

maintain monitoring for previous agent campaigns in the common stack until such time as the conditions in section 4.10 of the ANCDF LAMP are fulfilled and the Department concurs in writing that monitoring may be discontinued either permanently or for an extended period. Written concurrence is not required for normal operational outage periods where monitoring will be restored after a brief, predetermined period of time such as for munition changeovers, furnace outage periods or other similar period.

2. The exhaust gas monitoring systems specified in Condition VII.E.1., shall be calibrated, inspected and operated IAW with the applicable subparagraphs of Conditions VII.A.4.c. and VII.A.5.

3. The chemical agent emissions from the common stack, monitored as specified in Condition VII.E.2., shall not exceed the following concentrations:

Maximum Stack Emission (mg/m^3)	VX	GB	HD/HT
ROHA	0.00006	0.00006	0.006
Instantaneous	0.0003	0.0003	0.03

4. The waste feeds to all contributing incinerator(s) shall be automatically cut-off or lock-out when the chemical agent emission level(s) in the common stack exceeds the values specified in Condition VII.E.3.

Table 7-1: Maximum Feed Rates to the LIC during Normal Agent Operations

Description of Hazardous Waste	Maximum Feed Rate	
	ROHA	2MRA
GB	1,015 lbs/hr	34.5 lbs/2-min
VX	675 lbs/hr	23.00 lbs/2-min
HD	1,111 lbs/hr	37lbs/2-min
HT	1,111 lbs/hr	37lbs/2-min
SDS, Laboratory, Aqueous Liquid Wastes	1,600 lbs/hr	Not Applicable

Footnotes:

Abbreviations:
2MRA.....2-minute rolling average
lbs/hr.....pounds per hour
LIC.....Liquid Incinerator
SDS.....spent decontamination solution
ATB.....agent trial burn
lbs/2-min.....pounds per 2-minute average
ROHA.....rolling hourly average

Table 7-2: LIC AWFCO Parameters during Normal Agent Operations

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
LIC-01	TAHH-710	Primary Chamber Temperature High-High	2,750° F	2,750° F	2,750°F
LIC-02	TSLL-710	Primary Chamber Temperature Low-Low	2,475° F	2,475° F	2,475°F
LIC-03	TAHH-782	Secondary Chamber Temperature High-High	2,150° F	2,150° F	2,150°F
LIC-04	TSLL-782	Secondary Chamber Temperature Low-Low	1,850° F	1,850° F	1,850°F
LIC-05	PSHH-845	Primary Chamber Pressure High-High	-0.25 inwc	-0.25 inwc	-0.25 inwc
LIC-06	PSHH-896	Secondary Chamber Pressure High-High	-0.25 inwc	-0.25 inwc	-0.25 inwc
LIC-07	PDAH-855	Secondary Chamber Flue Gas Flow Rate High	0.7 inwc	0.7 inwc	0.7 inwc
LIC-08	AAHH-778C	Exhaust Blower Duct Flue Gas CO Level High-High	100 ppm 7% O_2, dry basis ROHA	100 ppm 7% O_2, dry basis ROHA	100 ppm 7% O_2, dry basis ROHA
LIC-09	AAHH-798A/B	Exhaust Blower Duct Flue Gas O_2 Concentration High	15% dry basis	15% dry basis	15% dry basis
LIC-10	AALL-798A/B	Exhaust Blower Duct Flue Gas O_2 Concentration Low-Low	3% dry basis	3% dry basis	3% dry basis
LIC-11	PSLL-737C	Primary Chamber Atomizing Air Pressure Low-Low	55 psig	55 psig	55 psig
LIC-12	PSL-809	Secondary Chamber Atomizing Air Pressure Low	65 psig	65 psig	65 psig

Table 7-2: LIC AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
LIC-14	FAHH-731C	Agent Feed Rate High-High 2MRA	37 lbs/2-min	23.00 lbs/2-min	34.5 lbs/2-min
LIC-15	FAHH-731D	Agent Feed Rate High-High ROHA	1,111 lbs/hr	675 lbs/hr	1,015 lbs/hr
LIC-16	FAHH-763	SDS Feed Rate High-High	1,600 lb/hr	1,600 lb/hr	1,600 lb/hr
LIC-17	PDALL-814	Venturi Scrubber Pressure Differential Low-Low	23 inwc	23 inwc	23 inwc
LIC-18	FALL-828	Venturi Scrubber |Flow Rate Low-Low	135 gpm with 10 second delay	135 gpm with 10 second delay	135 gpm with 10 second delay
LIC-19	DAHH-835	Venturi Scrubber Brine Density High-High	1.20 sgu	1.20 sgu	1.20 sgu
LIC-20	FALL-825	Scrubber Tower Clean Liquor Flow Rate Low-Low	600 gpm	600 gpm	600 gpm
LIC-21	AALL-832	Scrubber Tower pH Low-Low	7.28	7.28	7.28
LIC-22	TSHH-800	Quench Tower Flue Gas Temperature High-High	215° F	215° F	215°F
LIC-23	PALL-170	Scrubber Tower Clean Liquor Pressure Low-Low	25 psig	25 psig	25 psig
LIC-24	LSHH-02/06	Brine Surge Tanks Level High-High	219 inches	219 inches	219 inches
LIC-25	PALL-761	Chemical Agent Feed Pressure Low-Low	5 psig	5 psig	5 psig

Table 7-2: LIC AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
LIC-26[4]	ACAM-134	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	0.03 mg/m^3	NA	0.0003 mg/m^3
LIC-27[4]	ACAM-134	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	0.006 mg/m^3	NA	0.00006 mg/m^3
LIC-28[3]	ACAM-129/225/223	Chemical Agent Emissions High-High Instantaneous (Common Stack)	NA	NA	0.0003 mg/m^3
LIC-29[3]	ACAM-129 ACAM-225 ACAM-223	Chemical Agent Emissions High-High ROHA (Common Stack)	NA	NA	0.00006 mg/m^3
LIC-30[2]	TAHH-433	PFS Carbon Filter Exhaust Gas Temperature High-High	180° F	180° F	180°F
LIC-31[2]	PDAHH-436B PDAHH-438B PDAHH-487B	PFS HEPA Filter Inlet Pressure Drop High	5 inwc	5 inwc	5 inwc
LIC-32[2]	PDAHH-436 PDAHH-438E PDAHH-487E	PFS HEPA Filter Outlet Pressure Drop High	5 inwc	5 inwc	5 inwc
LIC-33	ACAM-911SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	NA	0.0003 mg/m^3	NA
LIC-34	ACAM-911SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	NA	0.00006 mg/m^3	NA

Table 7-2: LIC AWFCO Parameters during Normal Agent Operations (Continued)

Item No	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
LIC-35[3]	ACAM-904SC ACAM-905SC ACAM-906SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	NA	0.0003 mg/m^3	NA
LIC-36[3]	ACAM-904SC ACAM-905SC ACAM-906SC	Chemical Agent Emissions High-High ROHA (Common Stack)	NA	0.00006 mg/m^3	NA
LIC-37[3]	ACAM-923SC ACAM-924SC ACAM-925SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	0.03 mg/m^3	NA	NA
LIC-38[3]	ACAM-923SC ACAM-924SC ACAM-925SC	Chemical Agent Emissions High-High ROHA (Common Stack)	0.006 mg/m^3	NA	NA

Footnotes:

(1) All values are instantaneous unless otherwise noted.

(2) Stop feed parameters only apply to the on-line PFS unit. PDAHH-436B and E are installed within PFS-FILT-209 and will be the primary monitoring devices. ANCDF configuration allows for ducting of combustion gases from the LIC through the MPF PFS or the common spare PFS. As such, PDAHH-438B and E or PDAHH-487B and E will be the units of measure in the event that the exhaust from the LIC is being channeled through any of the other filter units.

(3) Common stack ACAMS must remain operational until the requirements of Section 4.10 of the ANCDF LAMP and permit condition VII.E have been met.

(4) ACAM 134 was converted from GB to HD monitoring during agent changeover for HD processing.

Abbreviations:

%.....percent
AAHH .....analyzer alarm high-high
AIT .....analyzer indicator transmitter
AWFCO.....automatic waste feed cut-off
FAHH .....flow alarm high-high
gpm.....gallons per minute
inwc .....inches of water column
°F ..... degrees Fahrenheit
AALL ..... analyzer alarm low-low
ANCDF ... Anniston Chemical Agent Disposal Facility
CO ..... carbon monoxide
FALL ..... flow alarm low-low
HEPA ..... high efficiency particulate air
lbs/2-min.. pounds per 2-minute average

Abbreviations (continued):

lbs/hr .....pounds per hour
LSHH.....level switch high-high
MPF .....Metal Parts Furnace
PALL .....pressure alarm high-high
PDAH .....pressure differential alarm high
PFS .....Pollution Abatement System Filtration System
PSHH.....pressure switch high-high
PSL .....pressure switch low
RCRA .....Resource Conservation and Recovery Act
SDS.....spent decontamination solution
TAHH .....temperature alarm high-high
2MRA.....2-minute rolling average
LIC ..... Liquid Incinerator
mg/m^3 ..... milligrams per cubic meter
O_2 ..... oxygen
PDAH ..... pressure differential alarm high
PDALL .... pressure differential alarm low-low
ppm..... parts per million
psig ..... pounds per square inch gauge
PSLL..... pressure switch low-low
ROHA..... rolling hourly average
sgu ..... specific gravity unit
TSLL ..... temperature switch low-low

Table 7-3: LIC System Instrument and Process Parameters

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
1 [a,b]	Primary Chamber Temperature 13-TIT-710	LIC-01/02	Thermocouple	212 to 3,000°F	±1.0% of Range
2 [a,b]	Secondary Chamber Temperature 13-TIT-782	LIC-03/04		32 to 2,400°F	
3 [a]	Primary Chamber Pressure 13-PSHH-845	LIC-05	Diaphragm	-5.0 to 0.5 inwc	±3.0% of Range
4 [a,b]	Primary Chamber Pressure 13-PIT-706	LIC-05		-20.0 to 5.0 inwc	±1.0% of Range
5 [a]	Secondary Chamber Pressure 13-PSHH-896	LIC-06		-5.0 to 5.0 inwc	±3.0% of Range
6 [a,b]	Secondary Chamber Flow Rate 13-PDIT-855	LIC-07	Orifice and D/P Cell	0 to 3.00 inwc	±1.0% of Range
7 [a,b]	Exhaust Blower Duct CO Level 24-AIT-778A/B	LIC-08	Non-Dispersive Infrared Cell Analyzer	0 – 200 to 0 – 3,000 ppm	Refer to ANCDF CEMS Certification Plan
8 [a,b]	Exhaust Blower Duct O_2 Concentration 24-AIT-798A/B	LIC-09/10	Zirconium Oxide Cell Analyzer	0 to 25%	
9 [a]	Primary Chamber Atomizing Air Pressure 13-PSLL-737C	LIC-11	Diaphragm	12 to 100 psig	±3.0% of Range

Table 7-3: LIC System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
10 [a]	Secondary Chamber Atomizing Air Pressure 13-PSL-809	LIC-12	Diaphragm	12 to 100 psig	±3.0% of Range
11	Deleted	LIC-13	---	---	---
12 [a,b]	Agent Feed Rate 13-FT-731A/B	LIC-14/15	Mass Flow Meter Vibrating U-Tube Type	0 to 1,500 lb/hr	±1.0% of Range
13 [a,b]	SDS Flow Rate 13-FIT-763	LIC-16		0 to 5 gpm	
14 [a,b]	Venturi Scrubber Pressure Differential 24-PDIT-814	LIC-17	D/P Cell	0 to 50 inwc	
15 [a,b]	Venturi Scrubber Brine Flow Rate 24-FIT-828	LIC-18	Electromagnetic Flow Meter	0 to 200 gpm	
16 [a,b]	Venturi Scrubber Brine Density 24-DIT-835	LIC-19	Magnetically Vibrated Tube (PAS-PUMP 211/212 Discharge to Suction)	0.6 to 1.4 sgu	±3.0% of Range
17 [a,b]	Scrubber Tower Clean Liquor Flow Rate 24-FIT-825	LIC-20	Electromagnetic Flow Meter	0 to 1,000 gpm	±1.0% of Range
18 [a,b]	Scrubber Tower pH 24-AIT-832A/B	LIC-21	Electrodes (PFS-PUMP-234/235 Discharge to Suction)	0 to 14 pH units	±3.0% of Range
19 [a]	Quench Tower Flue Gas Temperature 24-TSHH-800	LIC-22	Filled System Temperature Switch	100 to 300°F	

Table 7-3: LIC System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
20 [a,b]	Quench Tower Flue Gas Temperature 24-TIT-816	LIC-22	Thermocouple	0 to 300°F	±1.0% of Range
21 [a,b]	Scrubber Tower Clean Liquor Pressure 114-PIT-170	LIC-23	D/P Cell	0 to 100 psig	
22 [a,b]	Brine Surge Tanks Level 23-LIT-03/07	LIC-24	Ultrasonic	0 to 216 inches	
23 [a]	Brine Surge Tanks 23-LSHH-02/06	LIC-24	Level Switch	On or Off	Not Applicable
24 [a]	Chemical Agent Feed Pressure 13-PIT-761	LIC-25	D/P Cell	0 to 25 psig	±1.0% of Range
25 [a,b]	Chemical Agent Emissions Exhaust Blower Duct ACAM-134	LIC-26/27 AIT-134	Gas Chromatograph (Extractive)	See Appendix III D-2-2 of the Application	
26 [a,b]	Chemical Agent Emissions Common Stack ACAM-129 ACAM-223 ACAM-225	LIC-28/29 AIT-129			
27 [a]	PFS Carbon Filter Exhaust Gas Temperature 114-TSHH-433	LIC-30	Temperature Switch	68 to 203°F	±3.0% of Range

Table 7-3: LIC System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
28 [a,b]	PFS HEPA Filter Inlet Pressure Drop 114-PDIT-436B 114-PDIT-438B 114-PDIT-487B	LIC-31	D/P Transmitter	0 to 6 inwc	±1.0% of Range
29 [a,b]	PFS HEPA Filter Outlet Pressure Drop 114-PDIT-436E 114-PDIT-438E 114-PDIT-487E	LIC-32			
30 [a,b]	Chemical Agent Emissions Exhaust Blower Duct ACAM-911SC	LIC-33/34 AIT-134	Gas Chromatograph (Extractive)	See Appendix III D-2-2 of the Application	
31 [a,b]	Chemical Agent Emissions Common Stack ACAM-904/905/906SC	LIC-35/36 AIT-129			
32 [a,b]	Chemical Agent Emissions Common Stack ACAM-923/924/925SC	LIC-37/38 AIT-129	Gas Chromatograph (Extractive)	See Appendix III D-2-2 of the Application	

Footnotes:
a Continuous monitoring
b Continuous recording

Abbreviations:

%.....percentage
AAH .....analyzer alarm high
AIT .....analyzer indicating transmitter
AWFCO.....automatic waste feed cutoff
D/P.....differential pressure
°F .....degrees Fahrenheit
FT .....flow transmitter
gpm.....gallons per minute
lb/ft^3 .....pounds per cubic feet
LIC.....Liquid Incinerator
LSHH.....level switch high-high
PSHH.....pressure switch high-high
PFS .....PAS filtration System
ppm.....parts per million
psig .....pounds per square inch gauge
PSL .....pressure switch low
sgu .....specific gravity units
TIT.....temperature indicating transmitter
ZS .....position switch
±.....plus/minus
AAL .....analyzer alarm low
ANCDF.....Anniston Chemical Agent Disposal Facility
CEMS .....Continuous Emission Monitoring System
DIT .....density indicating transmitter
FIT .....flow indicating transmitter
IAW .....in accordance with
inwc .....inches of water column
lb/hr.....pounds per hour
LIT .....level indicating transmitter
PAS.....Pollution Abatement System
PDIT .....pressure differential indicating transmitter
PIT .....pressure indicating transmitter
PRW .....process water
PSHH.....pressure switch high-high
PSLL.....pressure switch low-low
SDS.....spent decontamination solution
TSHH.....temperature switch high-high

Table 7-4: Maximum Feed Rates of Munitions to the MPF during Normal Agent Operations

Munition Type	Agent Type	Max Units per Tray	Feed Interval per Tray[a] (min)	Max Weight per Tray[b] (lbs)	Maximum Feed Rate (lbs/hr)[c]		
					VX	GB	HD/HT
M121A1 Proj., 155MM	VX	48	35	13.9	23.8	---	---
M121A1/M122 Proj., 155MM	GB	48	35	---	---	147.9	---
M426 Proj., 8-inch	GB	27	35	---	---	147.9	---
M360 Proj., 105MM	GB	96	35	---	---	147.9	---
M2/M2A1 Proj., 4.2-inch (Condition 1 – drained)	HD/HT	96	30	66.2	---	---	132.4
M2/M2A1 Proj., 4.2-inch (Condition 2 – undrained)	HD/HT	96	60	540.9	---	---	540.9
M60 Proj., 105MM	HD	96	68	285	---	---	540.9
M110 Proj., 155MM	HD	48	80	540.9	---	---	540.9
Ton Container	HD	1	125	0 to ≤ 220	---	---	540.9
Ton Container	HD	1	140	>220 to ≤ 450	---	---	540.9
Ton Container	HD	1	165	> 450 to ≤ 540.9	---	---	540.9

Footnotes:
(a) Time required in Zones 1 and 2 or as specified in VII.C.3.g.
(b) Agent only, does not include the weight of the base, tray, or munition bodies nor any HD collected by the Froth Collection System
(c) The instantaneous feed rate in pounds per hour is calculated by Max Weight per Tray (lbs) x 1 tray/feed interval (min) x 60 min/hr not to exceed 540.9 lb/hr HD.

Abbreviations:
--- ..... not applicable
ATB ..... agent trial burn
lbs/hr ..... pounds per hour
MM ..... millimeter
% ..... percent
lbs ..... pounds
min ..... minutes
MPF ..... Metal Parts Furnace

Table 7-5: Maximum Feed Rates of Secondary Waste to the MPF during Normal Agent Operations

Secondary Waste Type	Max Units per Charge	Feed Interval per Charge[1] (min)	Max Weight per Charge (lbs)
Chlorine	---	90	93
Organic Material	---	90	335
Sludge	---	90	---[2]
Non-Combustible Waste [4]	---	30	---[4]
Embedded Metals[3]	---	90	4,050
BTU value (MM)	4	90	---
VX Agent	---	90	13.9

Footnotes:
(1) Time required in Zones 1 and 2 or as specified in VII.C.3.g.
(2) Sludge to be fed in containment pans, spread to a depth no greater than 1.5 inches.
(3) -Embedded is defined as the metallic content of a munition body or secondary waste; e.g., projo bodies, overpacks, pumps, etc.
(4) Non-combustible secondary waste such as bulk embedded metals, concrete, etc. will be fed to the MPF with zone timers of 30 minutes for Zones 1 and 2 and a zone timer of 20 minutes for Zone 3, as the treatment within the MPF is for thermal decontamination to the 5X level.

Abbreviations:
ACT .....Agent Collection Tank
lbs .....pounds
min.....minutes
SDS.....spent decontamination solution
BTU .....British thermal unit
MM.....million
MPF .....Metal Parts Furnace

Table 7-6: MPF AWFCO Parameters during Normal Agent Operations

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
MPF-01	TAHH-152	Primary Chamber Zone 1 Temperature High-High	1,705° F	1,705° F	1,705° F
MPF-02	TALL-152	Primary Chamber Zone 1 Temperature Low-Low[2]	1,175° F	1,175° F	1,175° F
MPF-03	TAHH-141	Primary Chamber Zone 2 Temperature High-High	1,705° F	1,705° F	1,705° F
MPF-04	TALL-141	Primary Chamber Zone 2 Temperature Low-Low[2]	1,175° F	1,175° F	1,175° F
MPF-05	TAHH-153	Primary Chamber Zone 3 Temperature High-High	1,705° F	1,705° F	1,705° F
MPF-06	TALL-153	Primary Chamber Zone 3 Temperature Low-Low[2]	1,175° F	1,175° F	1,175° F
MPF-07	TAHH-87	Afterburner Temperature High-High	2,150° F	2,150° F	2,150° F
MPF-08	TSLL-87	Afterburner Temperature Low-Low	1,772° F	1,772° F	1,772° F
MPF-09	PSHH-34	Primary Chamber Pressure High-High	-0.1 inwc	-0.1 inwc	-0.1 inwc

Table 7-6: MPF AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
MPF-10	PSHH-390	Afterburner Pressure High-High	-0.1 inwc	-0.1 inwc	-0.1 inwc
MPF-11	PDAHH-786	Afterburner Flue Gas Flow Rate High-High	0.5 inwc	0.5 inwc	0.5 inwc
MPF-12	AAHH-384C	Exhaust Blower Duct Flue Gas CO Level High-High	100 ppm	100 ppm	100 ppm
MPF-13	AAHH-81A/B	Exhaust Blower Duct Flue Gas O_2 Concentration High-High	15% dry	15% dry	15% dry
MPF-14	AALL-81A/B	Exhaust Blower Duct Flue Gas O_2 Concentration Low-Low	3% dry	3% dry	3% dry
MPF-15	Programmed Feed Permissive	Munitions Feed Rate High	132.4 lbs/hour – Condition 1 540.9 lbs/hour – Condition 2	23.8 lbs/hour	147.9 lbs/hour
		Secondary Waste Feed Rate High	Chlorine: 93 lbs/WIC Organic Material: 335 lbs/WIC Sludge: 1.5 inches in containment pan VX: 13.9 lbs/tray Non-embedded Metals: 1,920 lbs/WIC BTU: 4.0 MM/WIC		

Table 7-6: MPF AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
MPF-16	PDALL-222	Venturi Scrubber Pressure Differential Low-Low	25 inwc	25 inwc	25 inwc
MPF-17	FALL-218	Venturi Scrubber Brine Flow Rate Low-Low	130 gpm (10 second delay)	130 gpm (10 second delay)	130 gpm (10 second delay)
MPF-18	DAHH-216	Venturi Scrubber Brine Density High-High	1.10 sgu	1.10 sgu	1.10 sgu
MPF-19	FALL-248	Scrubber Tower Clean Liquor Flow Rate Low-Low	600 gpm	600 gpm	600 gpm
MPF-20	AALL-247	Scrubber Tower pH Low-Low	7.12 pH	7.12 pH	7.12 pH
MPF-21	BSLL-883 BSLL-884 BSLL-885 BSLL-886 BSLL-887 BSLL-888 BSLL-889 BSLL-890 BSLL-891 BSLL-892	Primary Chamber Flame Loss Low-Low	Zones 1 and 2, all or 2 burners out: <1,400° F		

Table 7-6: MPF AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
MPF-22	TSHH-223	Quench Tower Flue Gas Temperature High-High	215° F	215° F	215° F
MPF-23	PALL-358	Scrubber Tower Clean Liquor Pressure Low-Low	25 psig	25 psig	25 psig
MPF-24	LSHH-02/06	Brine Surge Tanks Level High-High	219 in	219 in	219 in
MPF-25	ACAM-167 ACAM-907	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	Not Applicable	Not Applicable	0.0003 mg/m^3
MPF-26	ACAM-167 ACAM-907	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	Not Applicable	Not Applicable	0.00006 mg/m^3
MPF-27[5]	ACAM-129 ACAM-223 ACAM-225	Chemical Agent Emissions High-High Instantaneous (Common Stack)	Not Applicable	Not Applicable	0.0003 mg/m^3

Table 7-6: MPF AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
MPF-28[5]	ACAM-129 ACAM-223 ACAM-225	Chemical Agent Emissions High-High ROHA (Common Stack)	Not Applicable	Not Applicable	0.00006 mg/m^3
MPF-29	TAHH-097	PFS Carbon Filter Exhaust Gas Temperature High-High	180° F	180° F	180° F
MPF-30[3]	PDAHH-436B PDAHH-438B PDAHH-487B	PFS HEPA Filter Inlet Pressure Drop High	5 inwc	5 inwc	5 inwc
MPF-31[3]	PDAHH-436E PDAHH-438E PDAHH-487E	PFS HEPA Filter Outlet Pressure Drop High	5 inwc	5 inwc	5 inwc
MPF-32[4]	ACAM-401A	Chemical Agent Emissions High-High Instantaneous (Cool-Down Conveyor Enclosure)	0.03 mg/m^3 HD/HT	Not Applicable	Not Applicable
MPF-33[4]	ACAM-401	Chemical Agent Emissions High-High Instantaneous (Cool Down Conveyor Enclosure)	Not Applicable	0.0003 mg/m^3	Not Applicable
MPF-34	ACAM-908-SC ACAM-909SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	Not Applicable	0.0003 mg/m^3	Not Applicable

Table 7-6: MPF AWFCO Parameters during Normal Agent Operations (Continued)

Item No	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
MPF-35	ACAM-908-SC ACAM-909SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	Not Applicable	0.00006 mg/m^3	Not Applicable
MPF-36[5]	ACAM-904SC ACAM-905SC ACAM-906SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	Not Applicable	0.0003 mg/m^3	Not Applicable
MPF-37[5]	ACAM-904SC ACAM-905SC ACAM-906SC	Chemical Agent Emissions High-High ROHA (Common Stack)	Not Applicable	0.00006 mg/m^3	Not Applicable
MPF-38	ACAM-932SC ACAM-933SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	0.03 mg/m^3 HD/HT	NA	NA
MPF-39	ACAM-932SC ACAM-933SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	0.006 mg/m^3 HD/HT	NA	NA
MPF-40[5]	ACAM-923SC ACAM-924SC ACAM-925SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	0.03 mg/m^3 HD/HT	NA	NA
MPF-41[5]	ACAM-923SC ACAM-924SC ACAM-925SC	Chemical Agent Emissions High-High ROHA (Common Stack)	0.006 mg/m^3 HD/HT	NA	NA

Footnotes:
(1) All values are instantaneous unless otherwise noted.
(2) In the event of an AWFCO, all zone timers will be reset.

Footnotes (continued):

(3) Stop feed parameters only apply to the on-line PFS unit. PDAHH-438B and E are installed within PFS-FILT-111 and will be the primary monitoring devices. ANCDF configuration allows for ducting of combustion gases from the MPF through the LIC PFS or the common spare PFS. As such, PDAHH-436B and E or PDAHH-487B and E will be the units of measure in the event that the exhaust from the MPF is being channeled through any of the other filter units.

(4) The ACAMS may be taken off-line during processing in accordance with VII.C.6.e.

(5) All common stack ACAMS must remain operational until the requirements of Section 4.10 of the ANCDF LAMP and permit condition VII.E have been met.

Abbreviations:

%.....percent
AAHH .....analyzer alarm high-high
AIT .....analyzer indicator transmitter
AWFCO.....automatic waste feed cut-off
FAHH .....flow alarm high-high
gpm.....gallons per minute
inwc .....inches of water column
lbs/hr.....pounds per hour
LSHH.....level switch high-high
MPF.....Metal Parts Furnace
PALL .....pressure alarm high-high
PDAH .....pressure differential alarm high
PDALL .....pressure differential alarm low-low
ppm.....parts per million
psig .....pounds per square inch gauge
PSLL.....pressure switch low-low
ROHA.....rolling hourly average
sgu .....specific gravity unit
TSLL .....temperature switch low-low

°F ..... degrees Fahrenheit
AALL..... analyzer alarm low-low
ANCDF..... Anniston Chemical Agent Disposal Facility
CO..... carbon monoxide
FALL ..... flow alarm low-low
HEPA..... high efficiency particulate air
lbs/2-min..... pounds per 2-minute average
LIC..... Liquid Incinerator
mg/m^3..... milligrams per cubic meter
O_2..... oxygen
PAS..... Pollution Abatement System
PDAH ..... pressure differential alarm high
PFS..... PAS Filtration System
PSHH ..... pressure switch high-high
PSL ..... pressure switch low
RCRA ..... Resource Conservation and Recovery Act
SDS..... spent decontamination solution
TAHH ..... temperature alarm high-high

Table 7-7: MPF System Instrument and Process Parameters

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
1 [a,b]	Primary Chamber Zone 1 Temperature 14-TIT-152	MPF-01/02	Thermocouple	0 to 2,000°F	±1.0% of Range
2 [a,b]	Primary Chamber Zone 2 Temperature 14-TIT-141	MPF-03/04			
3 [a,b]	Primary Chamber Zone 3 Temperature 14-TIT-153	MPF-05/06			
4 [a,b]	Afterburner Temperature 14-TIT-87	MPF-07/08		0 to 2,282°F	
5 [a,b]	Primary Chamber Pressure 14-PIT-34	MPF-09	Diaphragm	-10.0 to 0.0 inwc	
6 [a,]	Afterburner Pressure 14-PSHH-390	MPF-10		-15.0 to 15 inwc	±3.0% of Range
7 [a,b]	Afterburner Flow Rate 14-PDIT-786	MPF-11	D/P Cell	0 to 2.0 inwc	±1.0% of Range
8 [a,b]	Exhaust Blower Duct CO Level 24-AIT-384A/B	MPF-12	Non-Dispersive Infrared Analyzer	0 – 200 to 0 - 3,000 ppm	Refer to ANCDF CEMS Certification Plan
9 [a,b]	Exhaust Blower Duct O_2 Concentration 24-AIT-81A/B	MPF-13/14	Zirconium Oxide Cell Analyzer	0 to 25%	

Table 7-7: MPF System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
10 [a,b]	Venturi Scrubber Pressure Differential 24-PDIT-222	MPF-16	D/P Cell	0 to 50 inwc	± 1.0% of Range
11 [a,b]	Venturi Scrubber Brine Flow Rate 24-FIT-218	MPF-17	Electromagnetic flow meter (In-line)	0 to 200 gpm	± 1.0% of Range
12 [a,b]	Venturi Scrubber Brine Density 24-DIT-216	MPF-18	Magnetically Vibrated Tube (PAS-PUMP-102/103 Discharge to Suction)	0.6 to 1.40 sgu	±2.0% of Range
13 [a,b]	Scrubber Tower Clean Liquor Flow Rate 24-FIT-248	MPF-19	Electromagnetic Flow Meter (In-line)	0 to 1,500 gpm	±1.0% of Range
14 [a,b]	Scrubber Tower pH 24-AIT-247A/B	MPF-20	Electrodes (PFS-PUMP-136/137 Discharge to Suction)	0 to 14 pH units	±3.0% of pH Unit
15 [a]	Quench Tower Flue Gas Temperature 24-TSHH-223	MPF-22	Filled System Temperature Switch	175 to 360°F	±3.0% of Range
16 [a,b]	Quench Tower Flue Gas Temperature 24-TIT-509		Thermocouple	0 to 300°F	±1.0% of Range
17 [a,b]	Scrubber Tower Clean Liquor Pressure 114-PIT-358	MPF-23	D/P Cell (In-line)	0 to 100 psig	±3.0% of Range
18 [a,b]	Brine Surge Tanks Level 23-LIT-03/07	MPF-24	Ultrasonic	0 to 216 inches	±1.0% of Range

Table 7-7: MPF System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
19 [a]	Brine Surge Tanks Level 23-LSHH-02/066	MPF-24	Level Switch	On or Off	Function Tested
20 [a,b]	Chemical Agent Emissions Exhaust Blower Duct ACAM-167 ACAM-907	MPF-25/26 AIT-167	Gas Chromatograph (extractive)	See Appendix III D-2-2 of the Application	
21 [a,b]	Chemical Agent Emissions Common Stack ACAM-129	MPF-27/28 AIT-129			
22 [a,b]	PFS Carbon Filter Exhaust Gas Temperature 114-TSHH-97	MPF-29	Temperature Switch	75 to 205°F	±3.0% of Range
23 [a,b]	PFS HEPA Filter Inlet Pressure drop 114-PDIT-436B 114-PDIT-438B 114-PDIT-487B	MPF-30	D/P Transmitter	0 to 6 inwc	±1.0% of Range
24 [a,b]	PFS HEPA Filter Outlet Pressure drop 114-PDIT-436E 114-PDIT-438E 114-PDIT-487E	MPF-31			
25 [a,b]	Chemical Agent Emissions DAL Cool-Down Conveyor Enclosure ACAM-401A	MPF-32 AIT-401	Gas Chromatograph (extractive)	See Appendix III D-2-2 of the Application	

Table 7-7: MPF System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range
26 [a,b]	Chemical Agent Emissions DAL Cool-Down Conveyor Enclosure ACAM-401	MPF-33 AIT401	Gas Chromatograph (extractive)	See Appendix III D-2-2 of the Application
27 [a,b]	Chemical Agent Emissions High-High (Exhaust Blower Duct) ACAM-908SC ACAM-909SC	MPF-34 MPF-35 AIT-167		
28 [a,b]	Chemical Agent Emissions High-High (Common Stack) ACAM-904SC ACAM-905SC ACAM-906SC	MPF-36 MPF-37 AIT-129		
29 [a,b]	Chemical Agent Emissions High-High (Exhaust Blower Duct) ACAM-932SC ACAM-933SC	MPF-38 MPF-39 AIT-167		
30 [a,b]	Chemical Agent Emissions High-High (Common Stack) ACAM-923SC ACAM-924SC ACAM-925SC	MPF-40 MPF-41 AIT-129		

Table 7-7: MPF System Instrument and Process Parameters (Continued)

Footnotes:
(a) Continuous monitoring
(b) Continuous recording

Abbreviations:

±.....plus or minus
ACAMS.....automatic continuous air monitoring system
ANCDF.....Anniston Chemical Agent Disposal Facility
CEMS.....Continuous Emissions Monitoring System
D/P.....differential pressure
°F.....degrees Fahrenheit
gpm.....gallons per minute
inwc.....inches of water column
LSHH.....level switch high-high
O_2.....oxygen
PDIT.....pressure differential indicating transmitter
PIT.....pressure indicating transmitter
PSHH.....pressure switch high-high
RCRA.....Resource Conservation and Recovery Act
TIT.....temperature indicating transmitter
%.....percent
AIT.....analyzer indicating transmitter
AWFCO.....automatic waste feed cut-off
CO.....carbon monoxide
DIT.....density indicating transmitter
FIT.....flow indicating transmitter
IAW.....in accordance with
LIT.....level indicating transmitter
MPF.....Metal Parts Furnace
PAS.....Pollution Abatement System
PFS.....PAS Filtration System
ppm.....parts per million
psig.....pounds per square inch gauge
sgu.....specific gravity unit
TSHH.....temperature switch high-high

Table 7-8: Maximum Feed Rates of Munitions to the DFS during Normal Agent Operations

Munition Type	Agent Type	Max Units per Hour	Min Feed Interval (sec)	Maximum Feed Rate (lbs/hr)			
				VX	GB	EXPLOSIVES	PROPELLANT
M55/56 Rocket	GB	34	90	---	149.8	123.5	767.7
M55/56 Rocket	Gelled GB	17/10[1]	---	---	105.8	108.8	656.2
M55/56 Rocket	VX	31	---	4.48	---	102.4	617.6
M121A1 Proj., 155MM	VX	259	---	---	---	635.25	---
M121A1/M122 Proj., 155MM	GB	136	---	---	---	374	---
M426 Proj., 8-inch	GB	59	---	---	---	416.1	---
M360 Proj., 105MM	GB	300	---	---	---	337	---
M2/M2A1 Proj., 4.2-inch[3]	HD/HT	2150	---	---	---	632[2]	---
M60 Proj., 105MM[3]	HD	1680	---	---	---	591[2]	---
M110 Proj., 155MM[3]	HD	1600	---	---	---	658[2]	---
M23 Landmines	VX	44	---	4.48	---	58	---
Explosive Contaminated Solids	---	---	---	4.48	149.8	123.5	767.7
Explosive Contaminated Sludges	---	---	---	4.48	105.8	123.5	767.7

Footnotes:
(1) 17 rockets per hour if drain is greater than 93%; if not, 10 rockets per hour if drain is less than 93% (see Conditions VII.D.3.d. to g.).
(2) TNT equivalent
(3) Mustard agents HD/HT are not fed to the DFS during normal operations. As a result, mustard agent feed rates to the DFS have not been established. Should mustard agent contaminated energetic components be encountered, they will be treated within the DFS kiln at sufficient time and temperature requirements as to ensure 5X decontamination is achieved in accordance with VII.D.4.c and VII.D.4.k.

Abbreviations:
--- ..... not applicable
DFS ..... Deactivation Furnace System
sec ..... seconds
ATB ..... agent trial burn
lbs/hr ..... pounds per hour
TNT ..... trinitrotoluene

Table 7-9: DFS AWFCO Parameters during Normal Agent Operations

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
DFS-01	TAHH-182	Rotary Kiln Temperature High-High	1,650°	1,650°	1,650°F
DFS-02	TALL-182	Rotary Kiln Temperature Low-Low	965°	965°	950°F
DFS-03	TAHH-92	Afterburner Temperature High-High	2,160°F	2,160°F	2,160°F
DFS-04	TALL-92	Afterburner Temperature low-low	1,850°F	1,850°F	1,850°F
DFS-05	PSHH-204	Rotary Kiln Pressure High-High	-0.1 inwc with 5 second delay	-0.1 inwc with 5 second delay	-0.1 inwc with 5 second delay
DFS-06	PAH-65	Afterburner Pressure High	-0.1 inwc	-0.1 inwc	-0.1 inwc
DFS-07	PDAH-813	Afterburner Flue Gas Flow Rate High	1.0 inwc	1.0 inwc	1.0 inwc
DFS-08	AAHH-59C	Exhaust Blower Duct Flue Gas CO Level High-High	100 ppm 7% O_2 dry basis ROHA	100 ppm 7% O_2 dry basis ROHA	100 ppm 7% O_2 dry basis ROHA
DFS-09	AAHH-175A/B	Exhaust Blower Duct Flue Gas O_2 Concentration High-High	15% dry basis	15% dry basis	15% dry basis
DFS-10	AALL-175A/B	Exhaust Blower Duct Flue Gas O_2 Concentration Low-Low	3% dry basis	3% dry basis	3% dry basis
DFS-11	TALL-184	DC (Upper) Temperature Low-Low	Not Applicable [3]	1,000°F	1,000°F
DFS-12	TALL-42	DC (Lower) Temperature Low-Low	Not Applicable [3]	1,000°F	1,000°F

Table 7-9: DFS AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
DFS-13	PLC software	Munitions Feed Rate High-High	See Table 7-8	31 rockets/hr 4.48 lbs/hr agent 44 landmines/hr 4.48lbs/hr agent	34 rockets/hr - 12lbs/hr agent (drainable) or 17 rockets/hr if drain ≥93% 10 rockets/hr if drain < 93% (gelled)
DFS-14	PDALL-08	Venturi Scrubber Pressure Differential Low-Low	25 inwc	25 inwc	25 inwc
DFS-15	FAL-06	Venturi Scrubber Brine Flow Rate Low	300 gpm with 10 second delay	300 gpm with 10 second delay	300 gpm with 10 second delay
DFS-16	DAHH-33	Venturi Scrubber Brine Density High-High	1.20 sgu	1.20 sgu	1.20 sgu
DFS-17	FALL-30	Scrubber Tower Clean Liquor Flow Rate Low-Low	1,635 gpm	1,635 gpm	1,635 gpm
DFS-18	AALL-34	Scrubber Tower pH Low-Low	7.48	7.48	7.48
DFS-19	TAHH-51A/B/C/D/E	Rotary Kiln Shell Temperature High-High	1,600°F	1,600°F	1,600°F
DFS-20	SAHH-602	Rotary Kiln Rotational Speed High-High	2 rpm	2 rpm	2 rpm
DFS-21	SALL-602	Rotary Kiln Rotational Speed Low-Low	0.33 rpm	0.33 rpm	0.33 rpm
DFS-22	XS-58/821	DC Operation (jam)	Not Applicable [3]	Sensor blocked with 10 second delay	Sensor blocked with 10 second delay

Table 7-9: DFS AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
DFS-23	SAL-57	DC Operation (no motion)	Not Applicable [3]	No motion	No motion
DFS-24	XS-207/209	Feed Chute Operation	Sensor blocked with 10 second delay	Sensor blocked with 10 second delay	Sensor blocked with 10 second delay
DFS-25	TSHH-01	Quench Tower Flue Gas Temperature High-High	215°F	215°F	215°F
DFS-26	PALL-344	Scrubber Tower Clean Liquor Pressure Low-Low	25 psig	25 psig	25 psig
DFS-27	LSHH-02/06	Brine Surge Tanks Level High-High	219 inches	219 inches	219 inches
DFS-28	ACAM-297	Chemical Agent Emissions High-High Instantaneous (Cyclone Enclosure)	0.006 mg/m^3 HD/HT	0.00006 mg/m^3 VX	0.00006 mg/m^3 GB
DFS-29	ACAM-183 ACAM-910SC	Chemical Agent Emissions High-High Instantaneous (Exhaust Blower Duct)	0.03 mg/m^3 HD/HT	0.0003 mg/m^3 VX	0.0003 mg/m^3 GB
DFS-30	ACAM-183 ACAM-910SC	Chemical Agent Emissions High-High ROHA (Exhaust Blower Duct)	0.006 mg/m^3 HD/HT	0.00006 mg/m^3 VX	0.00006 mg/m^3 GB

Table 7-9: DFS AWFCO Parameters during Normal Agent Operations (Continued)

Item No.	Tag Number	Process Data Description	AWFCO[1] Setpoints		
			HD/HT	VX	GB
DFS-31[4]	ACAM-129 ACAM-223 ACAM-225	Chemical Agent Emissions High-High Instantaneous (Common Stack)	NA	NA	0.0003 mg/m^3 GB
	ACAM-904SC ACAM-905SC ACAM-906SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	NA	0.0003 mg/m^3 VX	NA
	ACAM-923SC ACAM-924SC ACAM-925SC	Chemical Agent Emissions High-High Instantaneous (Common Stack)	0.03 mg/m^3 HD/HT	NA	NA
DFS-32[4]	ACAM-129 ACAM-223 ACAM-225	Chemical Agent Emissions High-High ROHA (Common Stack)	NA	NA	0.00006 mg/m^3 GB
	ACAM-904SC ACAM-905SC ACAM-906SC	Chemical Agent Emissions High-High ROHA (Common Stack)	NA	0.00006 mg/m^3 VX	NA
	ACAM-923SC ACAM-924SC ACAM-925SC	Chemical Agent Emissions High-High ROHA (Common Stack)	0.006 mg/m^3 HD/HT	NA	NA
DFS-33	TAHH-430	PFS Carbon Filter Exhaust Gas Temperature High-High	180°F	180°F	180°F

Table 7-9: DFS AWFCO Parameters during Normal Agent Operations (Continued)

DFS-34(2)	PDAHH-436B PDAHH-438B PDAHH-440B PDAHH-442B PDAHH-487B	PFS HEPA Filter Inlet Pressure Drop High	5 inwc	5 inwc	5 inwc
DFS-35(2)	PDAHH-436E PDAHH-438E PDAHH-440E PDAHH-442E PDAHH-487E	PFS HEPA Filter Outlet Pressure Drop High	5 inwc	5 inwc	5 inwc
DFS-36	ACAM-365	Chemical Agent Emissions High-High Instantaneous (DC Bin Enclosure Area)	0.03 mg/m^3 HD/HT	0.0003 mg/m^3 VX	0.0003 mg/m^3 GB

Footnotes:

(1) All values instantaneous unless otherwise noted.

(2) Stop feed parameters only apply to the on-line PFS unit. PDAHH-440B and E and PDAHH-442B and E are installed within PFS-FILT-111 and -112 and will be the primary monitoring devices. ANCDF configuration allows for ducting of combustion gases from the DFS through any of the PFS units. As such, PDAHH-436B and E, PDAHH-438B and E, or PDAHH-487B and E will be the units of measure in the event that the exhaust from the DFS is being channeled through any of the other filter units.

(3) The Discharge Conveyor will not be heated during the mustard campaign, but shall remain heated during both the GB and VX campaigns. Mustard contaminated components will be processed within the kiln for greater than 15 minutes at 1000° F.

(4) Common stack ACAMS must remain operational until the requirements of Section 4.10 of the ANCDF LAMP and permit condition VII.E have been met.

Abbreviations:

%.....percent
AAHH .....analyzer alarm high-high
AIT .....analyzer indicator transmitter
AWFCO.....automatic waste feed cut-off
FAHH .....flow alarm high-high
gpm.....gallons per minute
HEPA.....high efficiency particulate air
°F ..... degrees Fahrenheit
AALL..... analyzer alarm low-low
ANCDF..... Anniston Chemical Agent Disposal Facility
CO..... carbon monoxide
FALL ..... flow alarm low-low
DC..... Discharge Conveyor
inwc..... inches of water column

Table 7-9: DFS AWFCO Parameters during Normal Agent Operations (Continued)

Abbreviations (continued):

lbs/hr.....pounds per hour
LSHH.....level switch high-high
MPF.....Metal Parts Furnace
PALL.....pressure alarm high-high
PDAH.....pressure differential alarm high
PDALL.....pressure differential alarm low-low
ppm.....parts per million
psig.....pounds per square inch gauge
PSLL.....pressure switch low-low
ROHA.....rolling hourly average
sgu.....specific gravity unit
TSLL.....temperature switch low-low
LIC.....Liquid Incinerator
mg/m^3.....milligrams per cubic meter
O_2.....oxygen
PAS.....Pollution Abatement System
PDAH.....pressure differential alarm high
PFS.....PAS Filtration System
PSHH.....pressure switch high-high
PSL.....pressure switch low
RCRA.....Resource Conservation and Recovery Act
SDS.....spent decontamination solution
TAHH.....temperature alarm high-high

Table 7-10: DFS System Instrument and Process Parameters

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
1 [a,b]	Rotary Kiln Temperature 16-TIT-182/244	DFS-01/02	Thermocouple	0 to 2,300°F	±1.0% of Range
2 [a,b]	Afterburner Temperature 16-TIT-92	DFS-03/04		32 to 2,400°F	
3 [a,b]	Rotary Kiln Pressure 16-PIT-18	DFS-05	Diaphragm	-20 to 5 inwc	
4 [a]	Rotary Kiln Pressure 16-PSHH-204	DFS-05		-0.07 to –0.15 inwc	±3.0% of Range
5 [a,b]	Afterburner Pressure 16-PIT-65	DFS-06	D/P Cell	-20 to 5 inwc	±1.0% of Range
6 [a,b]	Afterburner Flow Rate 16-PDIT-813	DFS-07	Orifice and D/P Cell	0 to 3.0 inwc	
7 [a,b]	Exhaust Blower Duct CO Level 16-AIT-59A/B	DFS-08	Non-Dispersive Infrared Cell Analyzer	0 – 200 to 0 - 3,000 ppm	Refer to ANCDF CEMS Certification Plan
8 [a,b]	Exhaust Blower Duct O_2 Concentration 16-AIT-175A/B	DFS-09/10	Zirconium Oxide Cell Analyzer	0 to 25%	
9 [a,b]	DC Temperature 16-TIT-42/184	DFS-11/12	Thermocouple	0 to 1,600°F	±1.0% of Range

Table 7-10: DFS System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
10 [a,b]	Venturi Scrubber Pressure Differential 24-PDIT-08	DFS-14	D/P Cell	0 to 50 inwc	±1.0% of Range
11 [a,b]	Venturi Scrubber Brine Flow Rate 24-FIT-06	DFS-15	Electromagnetic flow meter	0 to 500 gpm	
12 [a,b]	Venturi Scrubber Brine Density 24-DIT-33	DFS-16	Magnetically Vibrated Tube (PAS-PUMP-106/107 Discharge to Suction)	0.6 to 1.4 sgu	±2.0% of Range
13 [a,b]	Scrubber Tower Clean Liquor Flow Rate 24-FIT-30	DFS-17	Electromagnetic flow meter	0 to 3,000 gpm	±1.0% of Range
14 [a,b]	Scrubber Tower pH 24-AIT-34A/B	DFS-18	Electrodes (PAS-PUMP-138/139 Discharge to Suction)	0 to 14 pH units	±3.0% of pH unit
15 [a,b]	Rotary Kiln Shell Temperature 16-TIT-51-A/B/C/D/E	DFS-19	Photometric	800 to 1,800°F	±1.0% of Range
16 [a]	Rotary Kiln Rotational Speed 16-SS-602	DFS-20/21	Ferromagnetic sensor	Not Applicable	
17 [a]	DC Operation Jam 16-XS-58 16-XS-821	DFS-22	Position Switches		Not Applicable
18 [a]	DC Operation No Motion 16-SSL-57	DFS-23	Proximity Switches	0 to 4 rpm	±1.0% of Range

Table 7-10: DFS System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
19 [a]	Feed Chute Operation Jam 16-XS-207/209	DFS-24	Position Switches	Not Applicable	Not Applicable
20 [a]	Quench Tower Flue Gas Temperature 24-TSHH-01	DFS-25	Filled System Temperature Switch	95 to 219.65°F	±3.0% of Range
21 [a,b]	Quench Tower Flue Gas Temperature 24-TIT-374	DFS-25	Thermocouple	0 to 300°F	±1.0% of Range
22 [a,b]	Scrubber Tower Clean Liquor Pressure 114-PIT-344	DFS-26	D/P Cell	0 to 100 psig	±1.0% of Range
23 [a,b]	Brine Surge Tanks Level 23-LIT-03/07	DFS-27	Ultrasonic	0 to 216 inches	
24 [a]	Brine Surge Tanks Level 23-LSHH-02/06	DFS-27	Level Switch	On or Off	Function Tested
25 [a,b]	Chemical Agent Emissions Cyclone Enclosure ACAM-297	DFS-28 AIT-297	Gas Chromatograph (Extractive)	See Appendix III D-2-2 of the Application	
26 [a,b]	Chemical Agent Emissions Exhaust Blower Duct ACAM-183	DFS-29/30 AIT-183			
27 [a,b]	Chemical Agent Emissions Common Stack ACAM-129	DFS-31/32 AIT-129			

Table 7-10: DFS System Instrument and Process Parameters (Continued)

Item No.	Control Parameter	AWFCO Number	Measuring Device	Instrument Range	Accuracy
28 [a]	PFS Carbon Filter Exhaust Gas Temperature 114-TSHH-430	DFS-33	Temperature Switch	68 to 203°F	±3.0% of Range
29 [a,b]	PFS HEPA Filter Inlet Pressure drop 114-PDIT-440B 114-PDIT-442B 114-PDIT-436B 114-PDIT-438B 114-PDIT-487B	DFS-34	D/P Transmitter	0 to 6 inwc	±1.0% of Range
30 [a,b]	PFS HEPA Filter Outlet Pressure drop 114-PDIT-440E 114-PDIT-442E 114-PDIT-436E 114-PDIT-438E 114-PDIT-487E	DFS-35			
31 [a,b]	Chemical Agent Emissions High-High Instantaneous (DC Bin Enclosure Area) ACAM-365	DFS-36 AIT-262	Gas Chromatograph (Extractive)	See Appendix III D-2-2 of the Application	

Footnotes:
a Continuous monitoring
b Continuous recording

Table 7-10: DFS System Instrument and Process Parameters (Continued)

Abbreviations:

%.....percent
ACAMS.....automatic continuous air monitoring system
ANCDF.....Anniston Chemical Agent Disposal Facility
CEMS .....Continuous Emission Monitoring System
D/P.....differential pressure
DIT .....density indicating transmitter
FIT .....flow indicating transmitter
DC .....discharge conveyor
inwc .....inches of water column
LSHH.....level switch high-high
PAS.....pollution abatement system
PFS .....PAS Filtration System
ppm.....parts per million
psig .....pounds per square inch gauge
rpm.....revolutions per minute
SS.....speed switch
TSHH.....temperature switch high-high
XS.....position switch
±.....plus or minus
AIT .....analyzer indicating transmitter
AWFCO.....automatic waste feed cut off
CO .....carbon monoxide
DFS.....Deactivation Furnace System
°F .....degrees Fahrenheit
gpm.....gallons per minute
HEPA.....high efficiency particulate
LIT.....level indicating transmitter
O_2 .....oxygen
PDIT .....pressure differential indicating transmitter
PIT .....pressure indicating transmitter
PSHH.....pressure switch high-high
RCRA .....Resource Conservation and Recovery Act
sgu.....specific gravity unit
SSL .....speed switch low
TIT.....temperature indicating transmitter

MODULE VIII
CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

TABLE OF CONTENTS

MODULE VIII

CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

VIII.A.	SOLID WASTE MANAGEMENT UNITS	2
VIII.C.	NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES FROM SWMUS OR AOCS	4
VIII.D.	RCRA FACILITY INVESTIGATION (RFI)	4
VIII.E.	SELECTION OF CORRECTIVE MEASURES AND PERMIT MODIFICATIONS	6
VIII.F.	INTERIM MEASURES (IM)	7
VIII.G.	SUBMITTALS	9
VIII.H.	DISPUTE RESOLUTION	10

TABLE 8-1 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING A RCRA FACILITY INVESTIGATION (RFI) 11

TABLE 8-2 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING NO FURTHER ACTION AT THIS TIME..... 12

TABLE 8-3 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REGULATED BY THIS PERMIT 13

TABLE 8-4 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REGULATED BY OTHER PROGRAMS, I.E. CERCLA, MMRP..... 15

MODULE VIII

CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

VIII.A. SOLID WASTE MANAGEMENT UNITS

1. The Conditions of this module apply to the solid waste management units (SWMUs) and areas of concern (AOCs) identified in Table 8-1 of this Permit, which require a RCRA Facility Investigation (RFI).

2. The Conditions of this module apply to the SWMUs identified in Table 8-2 of this Permit, which require no further investigation under this permit at this time.

3. The Conditions of this module apply to the SWMUs and AOCs identified in Table 8-3 of this Permit which are RCRA regulated units under this permit.

4. The Conditions of this module apply to the SWMUs and AOCs identified in Table 8-4 of this Permit which are remediated by other programs.

5. The Conditions of this module apply to any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means; As used in this Part of the Permit, the terms "discover", "discovery", or "discovered" refer to the date on which the Permittee either, (1) visually observes evidence of a new SWMU or AOC, (2) visually observes evidence of a previously unidentified release of hazardous constituents to the environment, or (3) receives information which suggests the presence of a new release of hazardous waste or hazardous constituents to the environment.

6. For all SWMUs identified in both the Conditions VIII.A.1. through VIII.A.4 of this Permit and the Federal Facility Agreement (FFA), dated June 13, 1990, all requirements of Conditions VIII.D., VIII.E.,VIII.G. and VIII.H. of this Permit will be met in accordance with the terms, conditions, and schedules of the FFA. Should interim measures be required at any of these SWMUs, requirements for such measures will be complied with in accordance with Condition VIII.F. of this Permit.

ED_001691B_00010951

7. For all SWMUs and AOCs not identified in Condition VIII.A.6. of this Permit, the Permittee shall comply with all applicable terms, conditions, and schedules of this Permit. Also, for those SWMUs and AOCs which are identified in Condition VIII.A.6. of this Permit, if additional activities are required to comply with the terms of this permit beyond the requirements of the FFA, then those additional activities shall be in accordance with the terms, conditions, and schedules of this permit.

8. The Conditions of this module apply to contamination which has migrated beyond the facility boundary, if applicable. The Permittee shall implement corrective actions beyond the facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Department that, despite the Permittee's best efforts, as determined by the Department, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where offsite access is denied. On-site measures to address such releases shall be determined on a case-by-case basis.

VIII.B. NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUS AND AOCS

1. The Permittee shall notify the Department in writing, within fifteen (15) calendar days of discovery, of any suspected new AOC as discovered under Condition VIII.A.5. of this Permit. The notification shall include, at a minimum, the location of the AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.). If the Department determines that further investigation of an AOC is required, the permit shall be modified in accordance with ADEM Admin. Code R. 335-14-8-.04(2).

2. The Permittee shall notify the Department in writing, within fifteen (15) calendar days of discovery, of any additional SWMU as discovered under Condition VIII.A.5. of this Permit.

3. The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of notification, a SWMU Assessment Report (SAR) for each SWMU identified under Condition VIII.B.1. of this Permit. At a minimum, the SAR shall provide the following information:

   a. Location of unit(s) on a topographic map of appropriate scale such as required under ADEM Admin. Code R. 335-14-8-.02(5)(b)19.

   b. Designation of type and function of unit(s).

c. General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).

d. Dates that the unit(s) was operated.

e. Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous constituents in the wastes.

f. All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analyses, air, and/or surface water data).

4. Based on the results of the SAR, the Department shall determine the need for further investigations at the SWMUs covered in the SAR. If the Department determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in Conditions VIII.D.1. of this Permit.

VIII.C. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES FROM SWMUS OR AOCS

1. The Permittee shall notify the Department in writing of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, within fifteen (15) calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Condition VIII.A.2 of this Permit or SWMU or AOCs identified in Condition VIII.A.5 of this Permit for which further investigation was not required.

2. If the Department determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall initiate an investigation as outlined in Permit condition VIII.D immediately upon receiving notification of the Department's determination.

VIII.D. RCRA FACILITY INVESTIGATION (RFI)

1. The Permittee must perform a RCRA Facility Investigation (RFI) for any SWMU or AOC identified by the Department in Permit Conditions VIII.A.1., VIII.B.4., or VIII.C.2. of this Permit.

2. The RFI must completely identify the concentration of hazardous constituents released from each SWMU and AOC and fully delineate the area where such hazardous constituents have come to be located.

ED_001691B_00010951

3. The RFI must fully characterize the nature and extent of contamination released from each SWMU or AOC under investigation.,

4. The RFI must be performed in a manner consistent with the most recent edition of the Alabama Environmental Investigation and Remediation Guidance.

5. Except as provided by Permit Condition VIII.D.6, the RFI must be completed within 180 calendar days from the effective date of this permit, or for SWMUs or AOCs identified pursuant to Permit Condition VIII.B. and VIII.C., within 180 calendar days from the receipt of notification from the Department that an RFI is required. If, prior to the effective date of this permit, the Department has approved a work plan that includes a schedule for completing the RFI, the RFI shall be completed in accordance with the approved schedule.

6. RFI Schedule of Compliance

   a. For RFIs expected to require greater than 180 calendar days to complete, the Permittee may submit a schedule of compliance subject to Department approval and/or modification.

   b. Submittal of a RFI Schedule of Compliance does not delay or otherwise postpone the Permittee's obligation to initiate the RFI.

   c. The Schedule of Compliance must include:

      i. A detailed narrative discussion, which explains why the RFI cannot be completed within 180 days; and,

      ii. A detailed and chronological listing of milestones with estimated durations that provides sufficient information to track the progress of the investigation.

   d. The RFI Schedule of Compliance shall be reviewed by the Department in accordance with Permit Condition VIII.G.

   e. The Permittee shall complete the RFI in accordance with the approved RFI Schedule of Compliance.

7. RFI Progress Reports

   a. For an RFI being conducted in accordance with the approved RFI Schedule of Compliance, the Permittee must submit progress reports on a monthly basis.

   b. The RFI Progress Reports must include:

ED_001691B_00010951

i. A description of the portion RFI activities completed during the reporting period;

ii. Summaries of any problems or potential problems encountered during the reporting period;

iii. Actions taken to rectify problems;

iv. Changes in relevant personnel;

v. Projected work for the next reporting period;

vii. Any proposed revisions to the RFI Schedule of Compliance. Modifications of the RFI Schedule of Compliance are subject to approval by the Department; and,

vii. A summary of any data collected during the reporting period, including:

A. The location of each sampling point identified on a site map;

B. The concentration of each hazardous constituent detected at each sampling point; and,

C. Submittal of RFI Progress Reports, work plans, or other documents during the RFI does not alter the approved RFI Schedule of Compliance.

8. RFI Reports

a. The Permittee shall prepare and submit to the Department an RFI Report within 60 calendar days from the completion of investigation activities in accordance with the approved RFI Schedule of Compliance, if applicable.

b. The RFI Report must provide a detailed description of all required elements of the investigation as described in the most recent edition of the Alabama Environmental Investigation and Remediation Guidance.

c. The RFI Report shall be reviewed by the Department in accordance with Permit VIII.G.

VIII.E. SELECTION OF CORRECTIVE MEASURES AND PERMIT MODIFICATION

1. The Permittee shall develop and submit to the Department a Corrective Measures Implementation (CMI) Plan for any areas of the Permittee's site where hazardous constituents have come to be located at concentrations exceeding those appropriate for the protection of human health and the environment. The CMI Plan must include all applicable elements of the proposed remedy pursuant to the most recent edition of the Alabama Environmental Investigation and Remediation Guidance.

2. The CMI Plan shall be submitted to the Department within 120 calendar days following the Permittee's submittal of the RFI Report indicating that hazardous constituents have come to be located at any area of the Permittee's facility, or beyond the facility, at concentrations exceeding those appropriate for the protection of human health and the environment, or within 120 calendar days following notification from the Department that a CMI Plan is required, whichever occurs earlier.

3. The CMI Plan shall be submitted along with a request for permit modification pursuant to ADEM Admin. Code R. 335-14-8-.04(2), and shall include any applicable fees pursuant to ADEM Admin. Code R. 335-1-6. This modification will serve to incorporate the proposed final remedy, including all procedures necessary to implement and monitor the remedy, into this permit.

4. Within 120 calendar days after this Permit has been modified in accordance with Permit Condition VIII.E.3., the Permittee shall demonstrate financial assurance for completing the approved remedy.

VIII.F. INTERIM MEASURES (IM)

1. IM Work Plan(s)

   a. Upon notification by the Department, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan for any SWMU or AOC that the Department determines is necessary. IM are necessary in order to minimize or prevent further migration of contaminants and limit human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented. The IM Work Plan shall be submitted within thirty (30) calendar days of such notification and shall include the elements listed in VIII.F.1.b. Such IM may be conducted concurrently with investigations required under the terms of this Permit. The Permittee may initiate IM by submitting an IM Work Plan for approval and reporting in accordance with the requirements under Permit Condition VIII.F.

ED_001691B_00010951

b. The IM Work Plan shall ensure that the IM are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with and integrated into any long-term solution at the facility. The IM Work Plan shall include: the IM objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.

c. The IM Work Plan must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan.

d. The IM Report shall be reviewed by the Department in accordance with Permit Condition VIII.G.

2. IM Implementation

a. The Permittee shall implement the IM in accordance with the approved IM Work Plan.

b. The Permittee shall give notice to the Department as soon as possible of any planned changes, reductions or additions to the IM Work Plan.

c. Final approval of corrective action required under ADEM Admin. Code R. 335-14-5-.06(12), which is achieved through IM, shall be in accordance with ADEM Admin. Code R. 335-14-8-.04(2) and Permit Condition VIII.E.

3. IM Reports

a. If the time required for completion of IM is greater than one year, the Permittee shall provide the Department with progress reports at intervals specified in the approved work plan. The Progress Reports shall, at a minimum, contain the following information:

i. A description of the portion of the IM completed;

ii. Summaries of <u>any</u> deviations from the IM Work Plan during the reporting period;

iii. Summaries of <u>any</u> problems or potential problems encountered during the reporting period; and

iv. Projected work for the next reporting period.

v. Copies of laboratory/monitoring data.

b. The Permittee shall prepare and submit to the IM Report to the Department within ninety (90) calendar days of completion of IM conducted under Permit Condition VIII.F. The IM Report shall, at a minimum contain the following information:

i. A description of IM implemented;

ii. Summaries of results;

iii. Summaries of all problems encountered;

iv. Summaries of accomplishments and/or effectiveness of IM; and,

v. Copies of all relevant laboratory/monitoring data, *etc.* in accordance with Permit Condition I.E.11.

VIII.G. SUBMITTALS

1. All work plans, reports, schedules, and other documents ("submittals") required by this permit shall be subject to approval by the Department to assure that such submittals and schedules are consistent with the requirements of this Permit and with applicable regulations and guidance. The Permittee shall revise all submittals and schedules as directed by the Department.

2. The Department will review all submittals in accordance with the conditions of this permit. The Department will notify the Permittee in writing of any submittal that is disapproved, and the basis therefore. If the Department disapproves a submittal, the Department shall: (1) notify the Permittee in writing of the submittal's deficiencies and specify a due date for submission of a revised submittal, (2) revise the submittal and notify the Permittee of the revisions, or (3) conditionally approve the submittal and notify the Permittee of the conditions. Permit Condition VIII.H. shall apply only to submittals that have been disapproved and revised by the Department, or that have been disapproved by the Department, then revised and resubmitted by the Permittee, and again disapproved by the Department.

3. All submittals shall be submitted within the time frame specified by the Department and in accordance with the approved schedule of compliance. Extensions of the due date for submittals may be granted by the Department based on the Permittee's demonstration that sufficient justification for the extension exists.

4. All submittals required by this permit shall be signed and certified in accordance with ADEM Admin. Code Rule 335-14-8-.02(2).

5. Two (2) copies of all submittals shall be provided by the Permittee to the Department in accordance with Permit Condition I.H.

VIII.H. DISPUTE RESOLUTION

Notwithstanding any other provision in this permit, in the event the Permittee disagrees, in whole or in part, with the Department's revision of a submittal or disapproval of any revised submittal required by the permit, the following may, at the Permittee's discretion apply:

1. In the event that the Permittee chooses to invoke the provisions of this section, the Permittee shall notify the Department in writing within thirty (30) calendar days of receipt of the Department's revision of a submittal or disapproval of a revised submittal. Such notice shall set forth:

    a. The specific matters in dispute;

    b. The position the Permittee asserts should be adopted as consistent with the requirements of the permit;

    c. The basis for the Permittee's position; and,

    d. Any matters considered necessary for the Department's determination.

2. The Department and the Permittee shall have an additional thirty (30) calendar days from Department's receipt of the notification provided for in Condition VIII.H.1. of this Permit to meet or confer to resolve any disagreement.

3. In the event agreement is reached, the Permittee shall submit the revised submittal and implement the same in accordance with and within the time frame specified in such agreement.

4. If agreement is not reached within the 30-day period, the Department shall notify the Permittee in writing of its decision concerning the dispute, and the Permittee shall comply with the terms and conditions of the Department's decision in the dispute. For the purposes of this provision in this permit, the responsibility for making this decision shall not be delegated below the Land Division Chief.

5. With the exception of those conditions under dispute, the Permittee shall proceed to take any action required by those portions of the submission and of the permit that the Department determines are not affected by the dispute.

ED_001691B_00010951

TABLE 8-1 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING A RCRA FACILITY INVESTIGATION (RFI)

Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report dated September 26, 2007. Where discrepancies exist, the permit shall take precedence.

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 65	Burning Ground #2	RCRA- regulated Unit (interim status) – non operating. RCRA Closure plan necessary.	Soil
SWMU 69	Abandoned Phenol Basin at Industrial Wastewater Treatment Plant	RFI required for confirmatory sampling and/or remediation of possible contamination.	Groundwater, Soil
SWMU 71	Western Area "Clean Fill Site"	Investigation required for confirmatory sampling and/or remediation of possible contamination.	Soil
AOC B	Underground Storage Tanks in Chemical Limited Area	Brine contents were removed and tanks taken out of service. RFI should address closure of these tanks.	Groundwater, Soil
AOC J	Defense National Stockpiles	RFI required for confirmatory sampling and/or remediation of possible contamination.	Soil
AOC K	Underground Pipe Release at Building 504	RFI required for confirmatory sampling and/or remediation of possible contamination.	Groundwater

TABLE 8-2 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING NO FURTHER ACTION AT THIS TIME

Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report dated September 26, 2007. Where discrepancies exist, the permit shall take precedence.

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 6	Valve Disposal Pit	SIA – Phase II RI, May 1998	
SWMU 14	Laundry Waste Leaching Facility	ASA – OU-3 final ROD, July 2006	
SWMU 26	North TNT Burial Pit	ASA – OU-3 final ROD, July 2006	
SMWU 36	Drill and Transfer System Site (Toxic Demilitarization Site)	ASA – Site Expansion Report, 1994	
SWMU 39	Dynamometer Wastewater Treatment System	SIA – Phase I RI ,1995	
SWMU 44	Dry Creek	SIA – OU-1 IROD	
SWMU 45	Building 410 former UST	SIA - GW Code R335-6-15.26-.29/2005 ARBCA Evaluation	
SWMU 47	Building 385 former UST	Approved UST Removal March 28, 1996	
SWMU 66	Less than 90 Day Storage Areas (SWMU 16, millvans OB/OD, Buildings 114, 129, 130, 409, 431, 433, 432, 503, 512, 520	RCRA Regulated Units	
SWMU 67	Building 129 Test Range for M16	RCRA Regulated Units	
SWMU 68	Building 129 Test Range for Handguns	RCRA Regulated Units	
AOC C	Tank 77 Release	GW Sampling 2004-2005. Remediation complete , 5/2006.	

TABLE 8-3 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REGULATED BY THIS PERMIT

Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report dated September 26, 2007. Where discrepancies exist, the permit shall take precedence.

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 16	Burning Ground #1	RCRA-permitted Unit (interim status)	Groundwater, Soil
SWMU 17	Demolition Pit	RCRA-permitted Unit (interim status)	Groundwater, Soil
SWMU 32	Hazardous Waste Storage Building 512	RCRA-permitted Unit	Soil
SWMU 33	Hazardous Waste/Roll-off Box Storage Building 466	RCRA-permitted Unit	Soil
SWMU 34	Chemical Storage Igloos (Total of 155)	RCRA-permitted Unit	Soil
SWMU 48	Hazardous Waste Storage Building (Building 527)	RCRA-permitted Unit	Soil
SWMU 49	Conventional Waste Munitions/Components Storage Igloos (Total of 3)	RCRA-permitted Unit	Soil
SWMU 50	Brine Evaporation System	RCRA- permitted Unit	Groundwater, Soil
SWMU 51	Container Handling Building	RCRA- permitted Unit	Groundwater, Soil
SWMU 52	Brine Surge Tank System	RCRA- permitted Unit	Groundwater, Soil
SWMU 53	Toxic Maintenance Area	RCRA- permitted Unit	Groundwater, Soil
SWMU 54	Upper Munitions Corridor	RCRA- permitted Unit	Groundwater, Soil
SWMU 55	Buffer Storage Area	RCRA- permitted Unit	Groundwater, Soil
SWMU 56	Liquid Incinerator	RCRA- permitted Unit	Groundwater, Soil
SWMU 57	Deactivation Furnace System	RCRA- permitted Unit	Groundwater, Soil
SWMU 58	Brine Drum Dryers	RCRA- permitted Unit	Groundwater, Soil
SWMU 59	Agent Collection Tank System	RCRA- permitted Unit	Groundwater, Soil
SWMU 60	Waste Transfer Facility	RCRA- permitted Unit	Groundwater, Soil

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 61	Lower Munitions Corridor	RCRA- permitted Unit	Groundwater, Soil
SWMU 62	Spent Decontamination Holding Tank System	RCRA- permitted Unit	Groundwater, Soil
SWMU 63	Metal Parts Furnace	RCRA- permitted Unit	Groundwater, Soil
SWMU 64	HDC Bin Lay Down Area – Container Handling Building	RCRA- permitted Unit	Groundwater, Soil
SWMU 70	Static Detonation Chamber	RCRA-permitted Unit – 5/5/10	Groundwater, Soil

TABLE 8-4 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REMEDIATED BY OTHER PROGRAMS, I.E. CERCLA, MMRP.

Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report dated September 26, 2007. Where discrepancies exist, the permit shall take precedence.

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 1	Chemical Sludge Waste Pits	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 2	Sanitary Landfill	SIA – Requires monitoring and remediation provided in the OU-1 IROD and LUCs as specified by Interim Status Post Closure Care (Code R335-14.5.07 and R335-13.4.20) pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 3	Old Industrial Wastewater Treatment Plant	SIA – Requires monitoring and remediation provided in the OU-1 IROD	Groundwater
SWMU 4	New Industrial Wastewater Treatment Plant	SIA – Requires monitoring and remediation provided in the OU-1 IROD	Groundwater
SWMU 5	Sink Hole Disposal Area	ASA – Requires monitoring and maintenance approved in the final OU-3 ROD	Groundwater
SWMU 7	Chemical Waste Burial Pit	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 8	Acid Disposal Pit	ASA – Requires monitoring and maintenance of LUCs approved in the final OU-3 ROD	Groundwater, Soil

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 9	Calcium Hypochlorite Burial Pit	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 10	TNT Washout Facility	ASA – Requires monitoring and maintenance of LUCs approved in the final OU-3 ROD	Groundwater, Soil
SWMU 11	Sedimentation Leaching Bed-TNT Washout Facility	ASA – Requires monitoring and maintenance of LUCs approved in the final OU-3 ROD	Groundwater, Soil
SWMU 12	Facility 414 (Old Lagoon)	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 13	SIA Acid Chemical Waste Pit	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 15	Propellant Disposal Facility	ASA – OU-3 final ROD, July 2006. Continue SI to determine extent of NDMA contamination	Groundwater, Soil
SWMU 18	WIA Old Sewage Treatment Plant	WIA – OU-5, Requires completion of Site Investigation (SI)	Groundwater, Soil
SWMU 19	SIA Old Sewage Treatment Plant and Drying Beds	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 20	New Sewage Treatment Plant	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil

ED_001691B_00010951

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 21	Abrasive Dust Landfill	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 22	A-Block Lagoon	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 23	Asbestos Waste Disposal Trench	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 24	Old Sanitary Landfill	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 25	Building 130 Sump	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 27	South TNT Burial Pit	ASA – Requires monitoring and maintenance of LUCs approved in the final OU-3 ROD	Groundwater, Soil
SWMU 28	Waste Wood Landfill	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 29	Old Lumber Disposal Yard	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil
SWMU 30	Northeast Lagoon Area	SIA – Requires monitoring and remediation provided in the OU-1 IROD, and interim status LUCs pending finalization of the OU-2 ROD	Groundwater, Soil

SWMU/AOC Number	SWMU/AOC Name	Unit Comment	Potentially Affected Media
SWMU 31	Building 114 Metal Plating Shop	SIA – Requires monitoring and remediation provided in the OU-1 IROD	Groundwater
SWMU 35	Deactivation Furnace/Popping Furnace	ASA – Requires monitoring and remediation approved in the final OU-3 ROD	Groundwater, Soil
SWMU 37	Vehicle Wash Rack (Building 45)	WIA – OU-5, Requires completion of Site Investigation (SI)	Groundwater, Soil
SWMU 38	Air Emission Baghouses (Buildings 5, 111, 114, 127, 129, 130, 145, 147, 186, 409, 410, 413, 431, 432, 433, PUB)	Requires monitoring and remediation provided in the OU-1 IROD (only applies to units in SIA)	Groundwater
SWMU 40	Oil-Water Separator Building 501 and 501 UST Site	SIA – Requires monitoring and remediation provided in the OU-1 IROD	Groundwater
SWMU 41	Steam Cleaning Buildings (Buildings 128A, 129, 130,409, 421, 503)	Requires monitoring and remediation provided in the OU-1 IROD (only applies to units in SIA)	Groundwater
SWMU 42	Paint Booths (Buildings 8, 74A, 113, 117, 128A, 129, 130, 143, 409, 433, 501, 652)	Requires monitoring and remediation provided in the OU-1 IROD (only applies to units in SIA)	Groundwater
SWMU 43	Cyanide Pretreatment System Building 506	SIA – Requires monitoring and remediation provided in the OU-1 IROD	Groundwater
SWMU 46	Building 6 former UST	WIA – OU-5, Requires completion of Site Investigation (SI)	Groundwater, Soil
AOC A	Western Industrial Area	OU-5, Requires completion of Site Investigation	Groundwater, Soil
AOC D	Recoilless Rifle Range	MMRP Proposed RI	Groundwater, Soil
AOC E	Pistol Range	RI/FS	Groundwater, Soil
AOC F	Burning Ground Buffer Zone	RI/FS	Groundwater, Soil
AOC G	Competition Pistol Range	MMRP Phase II Remediation	Groundwater, Soil
AOC H	Tank Howitzer and Small Arms Range	MMRP Phase II Remediation	Groundwater, Soil
AOC I	Pyrotechnics Range	MMRP Phase II Remediation	Groundwater, Soil

MODULE IX
MANAGEMENT IN CONTAINERS AT THE ANAD HAZARDOUS WASTE STORAGE FACILITIES

TABLE OF CONTENTS

IX.A.	WASTE IDENTIFICATION	2
IX.B.	STORAGE IN CONTAINERS	2
IX.C.	CONDITION OF CONTAINERS	3
IX.D.	COMPATIBILITY OF WASTE WITH CONTAINERS	3
IX.E.	MANAGEMENT OF CONTAINERS	3
IX.F.	CONTAINMENT	4
IX.G.	INSPECTIONS	4
IX.H.	SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES	4
IX.I.	SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE	4
IX.J.	CLOSURE	5
IX.K	PERMITTED HAZARDOUS WASTE STORAGE FACILITIES	5
IX.L	SAMPLING OF CONTAINERS WITHIN WASTE STORAGE FACILITIES	5
TABLE 9-1	INDUSTRIAL/PROCESS HAZARDOUS WASTE STORAGE BUILDINGS	6
TABLE 9-2	CONVENTIONAL WASTE MUNITIONS/CONVENTION WASTE MUNITIONSCOMPONENTS STORAGE IGLOOS	7
TABLE 9-3	CHEMICAL AGENT STORAGE IGLOOS	8

MODULE IX

MANAGEMENT IN CONTAINERS AT THE ANAD HAZARDOUS WASTE STORAGE FACILITY

IX.A. WASTE IDENTIFICATION

1. In the Hazardous Waste Storage Buildings listed in Table 9-1, the Permittee may store, in containers at the facility, the Industrial/Process hazardous wastes listed in Table II.C-1 of the facility permit application, subject to the terms of this permit. Storage of any waste not listed in Table II.C-1 of the facility permit application of this permit is prohibited.

2. In the Conventional Waste Munitions Igloos listed in Table 9-2 the Permittee may store, in containers at the facility, the Conventional Munitions hazardous waste listed in Table II.C-1 of the facility permit application, subject to the terms of this permit. Conventional Munitions hazardous waste may consist of conventional munitions related waste and/or conventional waste munitions. Storage of any waste not listed in Table II.C-1 of the facility permit application is prohibited.

3. In the Chemical Agent Igloos listed in Table 9-3 the Permittee may store Chemical Agent Munitions or Chemical Agent Related wastes generated by ANAD chemical agent munitions storage, reconfiguration operations and/or the ANCDF operations. Chemical Agent Munitions and Chemical Agent related wastes will not be stored in the same igloos at the same time. Storage of any waste not listed in Table III.C-1 of the facility permit application is prohibited.

4. The maximum total storage capacity for the 3 conventional waste munitions igloos is 180,249 gallons. Individual igloo storage limits for conventional waste munitions storage are specified in Table 9-2. The maximum total storage capacity of the 3 industrial hazardous waste storage buildings is 182,543 gallons. Individual building storage limits for industrial hazardous waste are specified in Table 9-1. The maximum total storage capacity of the 155 igloos for chemical agent munitions and chemical agent related waste is 7,552,687 gallons. Individual igloo storage limits for chemical agent storage are as specified in Table 9-3. For containers, these maximum storage capacities are based on the capacity of the containers stored therein; for munitions, these maximum storage capacities are based on the volume occupied by the munitions as they are packaged for storage.

IX.B. STORAGE IN CONTAINERS

1. The Permittee shall comply with the container storage capacity restrictions listed in Part IX.A of this permit.

2. The maximum combined quantity of hazardous and non-hazardous waste (excluding Waste Chemical Agent Munitions) stored in a given area shall not exceed ten times the capacity of the containment system for that area.

3. No individual container may be stored in a given area if the volume exceeds the capacity of the containment system for that area.

4. In addition to the other requirements of Module IX, storage of Waste Chemical Agent Munitions shall comply with all the requirements of ADEM Admin. Code R. 335-14-5-.31.

5. A minimum of 30 inches of aisle space will be maintained at all times within the hazardous waste storage igloos and storage buildings (excluding Waste Chemical Agent Munitions) to provide adequate access for emergency equipment and inspection.

6. Containers (excluding Waste Chemical Agent Munitions) having a capacity greater than or equal to 30 gallons shall not be stacked over two containers high at any time.

7. In addition to the other requirements of Module IX, storage of Conventional Waste Munitions shall comply with all of the requirements of ADEM Admin. Code R. 335-14-7-.13(6)(a)1. and (b).

8. In order to meet the requirement of ADEM Admin. Code R. 335-14-9-.05(1), each container of hazardous waste must be marked with the words, "Hazardous Waste," the applicable EPA hazardous waste number(s), and the date each period of accumulation begins.

IX.C. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, upon discovery the Permittee shall immediately transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit, as required in ADEM Admin. Code R. 335-14-5-.09(2).

IX.D. COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall assure that the ability of the container to contain the waste is not impaired, as required by ADEM Admin. Code R. 335-14-5-.09(3).

IX.E. MANAGEMENT OF CONTAINERS

1. The Permittee shall manage containers as required by ADEM Admin. Code R. 335-14-5-.09(4).

2. A container holding hazardous or non-regulated waste must always be closed during storage, except when it is necessary to add, remove, sample, or inspect the waste.

3. A container holding hazardous or non-regulated waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

IX.F. CONTAINMENT

1. The Permittee shall maintain the containment systems for those hazardous waste storage areas listed in Table 9-1 in accordance with the requirements of ADEM Admin. Code R. 335-14-5-.09(6)(b).

2. The Permittee shall maintain an impervious coating for those hazardous waste storage areas listed in Table 9-1 that is free of cracks, gaps, or other deterioration on all containment system surfaces which may be exposed to hazardous wastes or hazardous constituents (or releases of hazardous wastes or hazardous constituents).

3. The Permittee shall provide secondary containment in the storage igloos listed in Table 9-3 for any container containing free liquids (excluding chemical agent munitions). The secondary containment must meet the requirements of ADEM Admin. Code R. 335-14-5-.09(6)(b). Employments of drip pans or container overpacks are two of the methodologies that meet the secondary containment regulatory requirement.

4. The Permittee shall provide secondary containment in the storage igloos listed in Table 9-2 for any container containing free liquids. The secondary containment must meet the requirements of ADEM Admin. Code R. 335-14-5-.09(6)(b). Employments of drip pans or container overpacks are two of the methodologies that meet the secondary containment regulatory requirement.

IX.G. INSPECTIONS

The Permittee shall inspect areas where containers are stored or handled. The purpose of this inspection is to detect leaking containers and deterioration of containers or containment systems and to ensure that containers having a capacity greater than 30 gallons are not stacked over two containers high. The Permittee shall adhere to the inspection requirements of ADEM Admin. Code R. 335-14-5-.09(5).

IX.H. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line as required by ADEM Admin. Code R. 335-14-5-.09 (7).

IX.I. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

1. The Permittee shall separate containers of incompatible wastes as specified in Section II.F-5 of the facility permit application.

2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

3. The Permittee must document compliance with Conditions IX.I.1. and IX.I.2. of this permit as required by ADEM Admin. Code R. 335-14-5-.05(4) and place this documentation in the operating record.

4. The Permittee shall separate containers of incompatible wastes as required by ADEM Admin. Code R. 335-14-5-.09(8)(c).

IX.J. CLOSURE

The Permittee shall close the container storage area in accordance with the requirements of the Closure Plan, Section I of the ANAD Part B Application, and Rules 335-14-5-.07(2) and 335-14-5-.09(9) of the ADEM Administrative Code.

IX.K PERMITTED HAZARDOUS WASTE STORAGE FACILITIES

The Permittee may operate the hazardous waste storage facility storage units described in Table 9-1, Table 9-2, and Table 9-3 of Part IX of this permit, subject to the terms of this permit. Operation of any process or unit not listed in Part IX of this permit, operation of any process in a unit or area other than that for which the process is listed, or exceedance of any capacity listed therein, for the storage of hazardous waste is prohibited.

IX.l SAMPLING OF CONTAINERS WITHIN WASTE STORAGE FACILITIES

1. The Permittee shall sample all unknown waste located in any of the Hazardous Waste Storage Facilities listed in Table 9-1. The waste shall be sampled within five (5) days of arrival in the Waste Storage Facility.

2. The results of the sampling of unknown wastes within the Waste Storage Facility must be determined in a period not to exceed seventy-five (75) days from the date of the original sampling event.

3. The date waste was placed into storage, the sampling date, and the date and results of the sampling event must be documented by the Permittee. This documentation shall be maintained for a period of no less than three (3) years.

TABLE 9-1

INDUSTRIAL/PROCESS HAZARDOUS WASTE STORAGE BUILDINGS*

Storage Building	Storage Dimensions	Max. Volume (gallons)**
466–A Side	100′ x 50′	27720
466-B Side	100′ x 60′	69300
512	40′ x 60′	25440
527	50′ x 80′	60083
Roll-off Box Storage Building	36′ x 60′	4 roll-off boxes; 132 cubic yards

Note: (*) Non-regulated waste includes solid and universal waste, used oil, etc.
(**) Max. Volume includes all waste stored (regulated and non-regulated)

TABLE 9-2

CONVENTIONAL WASTE MUNITIONS/CONVENTION WASTE MUNITIONS COMPONENTS STORAGE IGLOOS

Igloo	Storage Dimensions	Max. Volume (gallons)**
I-103	23′6″ x 80	60083
F-704A	23′6″ x 80	60083
F-405	23′6″ x 80	60083

Note: (**) Max. Volume includes all waste stored (regulated and non-regulated)

TABLE 9-3

CHEMICAL AGENT STORAGE IGLOOS*

Igloo	Dimensions	Max.Volume (gallons)	Igloo	Dimensions	Max.Volume (gallons)
G101	23'6"X60'	45945	G302	23'6"X60'	45945
G102	23'6"X60'	45945	G303	23'6"X60'	45945
G102A	23'6"X80'	60083	G303A	23'6"X80'	60083
G103	23'6"X60'	45945	G304	23'6"X60'	45945
G104	23'6"X60'	45945	G304A	23'6"X80'	60083
G105	23'6"X60'	45945	G305	23'6"X60'	45945
G106	23'6"X60'	45945	G306	23'6"X60'	60083
G107	23'6"X60'	45945	G306A	23'6"X80'	60083
G108	23'6"X60'	45945	G307	23'6"X60'	45945
G108A	23'6"X60'	45945	G307A	23'6"X80'	60083
G109	23'6"X60'	45945	G308	23'6"X60'	45945
G110	23'6"X60'	45945	G308A	23'6"X80'	60083
G200A	23'6"X60'	45945	G309	23'6"X60'	45945
G201	23'6"X60'	45945	G310	23'6"X60'	45945
G202	23'6"X60'	45945	G311	23'6"X60'	45945
G202A	23'6"X80'	60083	G312	23'6"X60'	45945
G203	23'6"X60'	45945	G313	23'6"X60'	45945
G203A	23'6"X80'	60083	G401	23'6"X60'	45945
G204	23'6"X60'	45945	G402	23'6"X60'	45945
G205	23'6"X60'	45945	G403	23'6"X60'	45945
G206	23'6"X60'	45945	G404	23'6"X60'	45945
G206A	23'6"X80'	60083	G404A	23'6"X80'	60083
G207	23'6"X60'	45945	G405	23'6"X60'	45945
G208	23'6"X60'	45945	G405A	23'6"X80'	60083
G208A	23'6"X80'	60083	G406	23'6"X60'	45945
G209	23'6"X60'	45945	G407	23'6"X60'	45945
G209A	23'6"X80'	60083	G408	23'6"X60'	45945
G210	23'6"X60'	45945	G408A	23'6"X80'	60083
G211	23'6"X60'	45945	G409	23'6"X60'	45945
G211A	23'6"X80'	60083	G410	23'6"X60'	45945
G212	23'6"X60'	45945	G411	23'6"X60'	45945
G213	23'6"X60'	45945	G501	23'6"X60'	45945
G301	23'6"X60'	45945	G502	23'6"X60'	45945

TABLE 9-3

CHEMICAL AGENT STORAGE IGLOOS, continued

Igloo	Dimensions	Max.Volume (gallons)	Igloo	Dimensions	Max.Volume (gallons)
G502A	23'6"X80'	60083	G610	23'6"X60'	45945
G503	23'6"X60'	45945	G611	23'6"X60'	45945
G503A	23'6"X80'	60083	G612	23'6"X60'	45945
G504	23'6"X60'	45945	G1001	23'6"X40'	28274
G504A	23'6"X80'	60083	G1002	23'6"X40'	28274
G505	23'6"X60'	45945	C701	23'6"X60'	45945
G505A	23'6"X80'	60083	C702	23'6"X60'	45945
G506	23'6"X60'	45945	C703	23'6"X60'	45945
G506A	23'6"X80'	60083	C704	23'6"X60'	45945
G507	23'6"X60'	45945	C705	23'6"X60'	45945
G507A	23'6"X80'	60083	C706	23'6"X60'	45945
G508	23'6"X60'	45945	C707	23'6"X60'	45945
G508A	23'6"X80'	60083	C707A	23'6"X80'	60083
G509	23'6"X60'	45945	C708	23'6"X60'	45945
G510	23'6"X60'	45945	C801	23'6"X60'	45945
G511	23'6"X60'	45945	C802	23'6"X60'	45945
G512	23'6"X60'	45945	C803	23'6"X60'	45945
G601	23'6"X60'	45945	C804	23'6"X60'	45945
G601A	23'6"X80'	60083	C805	23'6"X60'	45945
G602	23'6"X60'	45945	C806	23'6"X60'	45945
G602A	23'6"X80'	60083	C807	23'6"X60'	45945
G603	23'6"X60'	45945	C808	23'6"X60'	45945
G603A	23'6"X80'	60083	C808A	23'6"X80'	60083
G604	23'6"X60'	45945	C809	23'6"X60'	45945
G604A	23'6"X80'	60083	C901	23'6"X60'	45945
G605	23'6"X60'	45945	C902	23'6"X60'	45945
G605A	23'6"X80'	60083	C903	23'6"X60'	45945
G606	23'6"X60'	45945	C904	23'6"X60'	45945
G607	23'6"X60'	45945	C905	23'6"X60'	45945
G607A	23'6"X80'	60083	C906	23'6"X60'	45945
G608	23'6"X60'	45945	C907	23'6"X60'	45945
G609	23'6"X60'	45945	C907A	23'6"X80'	60083
G609A	23'6"X80'	60083	C908	23'6"X60'	45945

TABLE 9-3

CHEMICAL AGENT STORAGE IGLOOS, continued

Igloo	Dimensions	Max.Volume (gallons)
C1001	23'6"X60'	45945
C1002	23'6"X60'	45945
C1003	23'6"X60'	45945
C1004	23'6"X60'	45945
C1005	23'6"X60'	45945
C1006	23'6"X60'	45945
C1007	23'6"X60'	45945
C1008	23'6"X60'	45945
C1009	23'6"X60'	45945
C1101	23'6"X60'	45945
C1102	23'6"X60'	45945
C1103	23'6"X60'	45945
C1104	23'6"X60'	45945
C1105	23'6"X60'	45945
C1106	23'6"X60'	45945
C1107	23'6"X60'	45945
C1108	23'6"X60'	45945
C1201	23'6"X60'	45945
C1202	23'6"X60'	45945
C1203	23'6"X60'	45945
C1204	23'6"X60'	45945
C1205	23'6"X60'	45945
C1206	23'6"X60'	45945

* The storage volume of the Chemical Agent Storage Igloos was calculated by determining the maximum volume occupied by the M55 rockets as they are packaged for storage. Waste Chemical Agent Munitions shall be stored in accordance with ADEM Admin. Code R. 335-14-5-.31. Chemical Agent Related Waste must be stored in accordance with Condition IX.B of this Permit.

MODULE X: GROUNDWATER MONITORING AND CORRECTIVE ACTION

TABLE OF CONTENTS **PAGE**

X.A REQUIRED PROGRAM(S) 2

X.B. GENERAL GROUNDWATER MONITORING PROGRAM 2

X.C. DETECTION MONITORING PROGRAM 5

X.D. COMPLIANCE MONITORING PROGRAM 6

X.E. CORRECTIVE ACTION MONITORING PROGRAM (RESERVED) 7

LIST OF TABLES **PAGE**

TABLE 10-1: MONITORING WELL DESIGNATIONS FOR THE OB/OD UNITS 7

TABLE 10-2: GROUNDWATER PROTECTION STANDARD 8

MODULE X
GROUNDWATER MONITORING AND CORRECTIVE ACTION

X.A REQUIRED PROGRAM(S)

1. Groundwater monitoring shall consist of the General Groundwater Monitoring Program of Permit Condition X.B and the Detection Monitoring Program contained in Permit Condition X.C.

2. The Permittee shall commence groundwater monitoring as required by this permit not later than 120 calendar days after the effective date of this permit.

X.B. GENERAL GROUNDWATER MONITORING PROGRAM

1. Well Location, Installation, and Construction

   The Permittee shall install and/or maintain a groundwater monitoring system to comply with the requirements of ADEM Admin. Code Rules 335-14-5-.06(8), 335-14-5-.06(9), 335-14-5-.06(10), and 335-14-5-.06(11) as applicable and as specified below:

   a. The Permittee shall maintain all groundwater monitoring wells at the facility as identified in Table 10-1 of this permit, at the locations specified on Figure IV.E-1 and Figure IV.E-2 of the facility permit application.

      i. All groundwater monitoring wells shall be maintained in accordance with the plans and specifications presented in Section IV.F of the facility permit application and in accordance with ADEM Admin. Code Rule 335-14-5-.06.

      ii. A groundwater monitoring well shall not be removed from any monitoring program specified in this permit without an approved permit modification pursuant to Permit Condition I.K.3.

      iii. If a groundwater monitoring well is damaged, the Permittee shall immediately notify the Department in writing, to include a description of the well repair activities to be conducted. The well repair procedures must be approved by the Department prior to implementation. Within 30 calendar days after the well is repaired, the Permittee shall submit a written notification to the Department that the well repair activities were conducted in accordance with the approved procedures.

      iv. If a groundwater monitoring well is deleted from the monitoring program(s) required by this permit in accordance with Permit Conditions X.B.1.a.i and I.K.3., it shall be abandoned within 90 calendar days after deletion in accordance with the most recent version of the Alabama Environmental Investigation and Remediation Guidance (AEIRG). Within 30 calendar days after the well is abandoned, the Permittee shall submit a written notification to the Department that the well

ED_001691B_00010951

abandonment activities were conducted in accordance with the approved procedures.

b. Groundwater monitoring wells 05CW16-1, 05CW16-2, 05CW16-3, and 05CW16-4 shall define the points of compliance for the OB unit. Groundwater monitoring wells 05CW17-1, 05CW17-2, 91B18 and 91B19 shall define the points of compliance for the OD unit.

c. The Permittee shall install and maintain additional groundwater monitoring wells as necessary to assess changes in migration and contaminant levels of any plume or as otherwise deemed necessary to maintain compliance with ADEM Admin. Code Rules 335-14-5-.06(6), 335-14-5-.06(8), 335-14-5-.06(9), 335-14-5-.06(10), and 335-14-5-.06(11), as applicable. A plan in the form of a permit modification request specifying the design, location and installation of any additional monitoring wells should be submitted to the Department within 90 calendar days prior to installation. At a minimum, the plan shall include:

i. Well construction techniques including casing depths and proposed total depth of well(s);

ii. Well development method(s);

iii. A complete description of well construction materials;

iv. A schedule of implementation for construction; and,

v. Provisions for determining the lithologic characteristics, hydraulic conductivity, grain size distribution, and porosity for the applicable aquifer unit(s) at the location of the new well(s).

2. General Groundwater Monitoring Requirements

a. The Permittee shall determine the groundwater surface elevation from all monitoring wells listed in Table 10-1 of this permit at least semi-annually and each time a sampling event is conducted. The results of these determinations should be submitted in accordance with Permit Condition X.B.6. Elevation data should be recorded and reported as mean sea level (MSL) and referenced to an appropriate national geodetic vertical datum (NGVD) benchmark.

b. The Permittee shall determine the groundwater flow rate and direction in the underlying aquifer(s) at least annually and submit the results in accordance with Permit Condition X.B.6.

c. The Permittee shall determine background concentrations of hazardous constituents and other chemical parameters required to be monitored by this permit in accordance with Section IV.E of the permit application and ADEM Admin. Code Rule 335-14-5-.06(8)(g).

3. Groundwater Protection Standard

a. The groundwater protection standard, as required under ADEM Admin. Code Rule 335-14-5-.06(3), shall consist of Table 10-2 of this permit which lists the hazardous constituents and their respective concentration limits.

b. The groundwater protection standard applies to all hazardous waste or hazardous constituent releases as deemed appropriate by the Department to protect human health and the environment.

4. Compliance Period

a. The compliance period, during which the groundwater protection standard specified in Permit Condition X.B.3 applies, shall begin at the time of the first sampling event of the compliance monitoring program (Permit Condition X.D.) or the corrective action monitoring program (Permit Condition X.E.), whichever is earlier.

b. The compliance period shall continue (after beginning pursuant to Permit Condition X.B.4.a.) until the groundwater protection standard as defined by Permit Condition X.B.3.a. has not been exceeded for a period of three consecutive years.

c. If the Permittee is engaged in a corrective action program pursuant to Permit Condition X.E., then the compliance period shall continue as required by ADEM Admin. Code Rule 335-14-5-.06(7)(c) until the groundwater protection standard has not been exceeded for a period of three consecutive years after corrective action has been terminated and this permit has been modified, in accordance with Permit Condition I.K., to implement a compliance monitoring program pursuant to Permit Condition X.D. or a detection monitoring program pursuant to Permit Condition X.C as required by ADEM Admin. Code Rule 335-14-5-.06(11)(f).

5. Sampling and Analysis Procedures

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the groundwater monitoring wells described in Permit Condition X.B.1. to provide a reliable indication of the quality of the groundwater as required under ADEM Admin. Code Rules 335-14-5-.06(8)(d), (e), and (g):

a. Samples shall be collected, preserved, and shipped (when shipped off-site for analysis) in accordance with the procedures specified in Section IV.E of the facility permit application.

b. Samples shall be analyzed according to the procedures specified in Section IV.E of the facility permit application, the most recent edition of SW-846 or other appropriate methods approved by the Department. Analytical method detection limits shall be less than or equal to the concentration limits specified in Table 10-2, unless otherwise approved in writing by the Department.

c. Samples shall be tracked and controlled using the chain-of-custody procedures specified in Section IV.E of the facility permit application.

d. Statistical analyses used to evaluate the groundwater monitoring data shall be as described in Section IV.E of the facility permit application and ADEM Admin. Code Rule 335-14-5-.06(8)(h).

e. All samples taken in accordance with this permit shall not be filtered prior to analysis.

6. Recordkeeping and Reporting

a. The Permittee shall keep and maintain all monitoring, testing, and analytical data obtained in accordance with Permit Conditions X.B., X.C., X.D., and X.E. as required by Permit Condition I.E.11.

b. The Permittee shall submit to the Department a written report to include all analytical sampling data, established background values, statistical evaluations, groundwater elevations, associated potentiometric maps, and the annual groundwater flow rate and direction determinations. The analytical method and the method detection limit (MDL) for each constituent must be integrated into all reports of analysis. The report shall be submitted within 60 calendar days after the first sampling event and on an annual basis thereafter. Copies of this report shall be kept at the facility in accordance with Permit Condition I.E.11.

c. The Permittee shall submit progress reports to the Department describing implementation of groundwater monitoring and/or corrective action activities at the site as required by Part V of this permit on a quarterly basis. The progress reports shall continue until such time as the required monitoring and/or corrective action systems and activities required by this permit are fully constructed and operational. In the event that additional monitoring and/or corrective action requirements are imposed through a permit modification, the quarterly reporting requirement shall resume, commencing upon the effective date of the permit modification and continuing until the required monitoring and/or corrective action systems and activities are again fully constructed and operational.

X.C. DETECTION MONITORING PROGRAM

The requirements of this Condition are applicable to OB and OD units. Except as specified otherwise in this permit, the Detection Monitoring Program shall be implemented in accordance with Section IV.E of the permit application and ADEM Admin. Code Rule 335-14-5-.06(9).

1. Monitoring Requirements

In addition to the general groundwater monitoring requirements specified in Permit Condition X.B.2., the Permittee shall:

a. Sample all point of compliance wells and background wells and analyze for the constituents listed in Table 10-2 of this permit, on a semi-annual basis in accordance with Permit Condition X.B.5.

b. Sample all background and point of compliance monitoring wells and analyze for temperature (degrees F or C), specific conductance (Mhos/cm), and pH (standard

units) each time the well is sampled in accordance with Permit Condition X.B.5. The data obtained should be submitted as raw data in the reports required by Permit Condition X.B.6.

c. Sample all designated background monitoring wells and analyze, in accordance with Permit Condition X.B.2, for the constituents listed in Table 10-2 of this permit in all monitoring events.

2. Reporting and Response Requirements

In addition to the recordkeeping and reporting requirements specified in Permit Condition X.B.6:

a. The Permittee shall determine whether there is statistically significant evidence of contamination above background levels at each monitoring well within 45 calendar days after completion of each sampling event. The statistical evaluation of monitoring well analytical data shall be performed pursuant to Permit Condition X.B.5 and ADEM Admin. Code Rule 335-14-5-.06(9)(f).

b. If the Permittee determines, pursuant to Permit Condition X.C.2.a, that there is statistically significant evidence of contamination above background levels for any chemical parameters or hazardous constituents listed in Table 10-2 of this permit at any monitoring well at the point of compliance, he or she must comply with ADEM Admin. Code R. 335-14-5-.06(10)(g).

X.D. COMPLIANCE MONITORING PROGRAM

If statistically significant evidence of contamination is found during the baseline sampling monitoring program, in compliance with AAC 335-14-5-.06(10)(h)(2) and (3), the groundwater shall be sampled in all monitoring wells to determine whether constituents in the list of Appendix IX of AAC 335-14-5 are present and, if so, at what concentration. For any Appendix IX compounds found, the analysis may be repeated in1 month. If the analysis is repeated and the results of the second analysis confirm the initial results, then these constituents will form the basis of compliance monitoring. Alternatively, the Permittee may elect to have the hazardous constituents found in the initial Appendix IX monitoring serve as the basis for compliance monitoring. Within 90 days after the discovery of statistically significant evidence of contamination, ANAD shall submit to ADEM an application for a permit modification. The permit modification application will include the following information:

1. Identification of the concentration of any Appendix IX constituent detected in the groundwater at each monitoring well at the point of compliance. [AAC 335-14-5-.06(10)(h)].

2. Any proposed changes to the groundwater monitoring system at the OB and OD units necessary to meet the requirements of AAC 335-14-5-.06(11) [AAC 335-14-5-.06(10)(h)(2)].

3. Any proposed corrective actions, additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of AAC 335-14-5-.06(11) [AAC 335-14-5-.06(10)(h)(2)].

X.E. CORRECTIVE ACTION MONITORING PROGRAM (RESERVED)

TABLE 10-1: MONITORING WELL DESIGNATIONS FOR THE OB/OD UNITS

WELL NUMBER	WELL TYPE[2]	WELL LATITUDE	WELL LONGITUDE	UNIT(S) MONITORED	WELL DEPTH (ft btoc)	TOP-OF-CASING ELEVATION (ft. MSL)	SCREENED INTERVAL (ft. bgs)	MONITORED ZONE
05CW16-1[1]	POC	85° 59' 48.10"	33° 39' 56.50"	OB	23	713.75	10.0-20.0	Residuum
05CW16-2	POC	85° 59' 55.80"	33° 40' 06.10"	OB	18	688.09	5.0-15.0	Residuum
05CW16-3	POC	85° 59' 55.00"	33° 40' 04.00"	OB	18	693.36	4.5-14.5	Residuum
05CW16-4	POC	85° 59' 53.00"	33° 40' 04.60"	OB	22	695.81	9.5-19.5	Residuum
05CW17-1	POC	86° 00' 00.40"	33° 40' 59.63"	OD	23	616.04	1.0-20.0	Residuum
05CW17-2	POC	85° 59' 53.00"	33° 40' 55.35"	OD	18	623.91	5.0-15.0	Residuum
91B18[1]	POC	85° 59' 30.50"	33° 40' 47.77"	OD	18	652.00	5.0-15.0	Residuum
91B19	POC	85° 59' 52.52"	33° 40' 56.72"	OD	23	621.57	10.0-20.0	Residuum

Footnotes:

1 – Background Wells
2 - POC – Point of Compliance Wells

TABLE 10-2: GROUNDWATER PROTECTION STANDARD

HAZARDOUS CONSTITUENT	UNIT	PRELIMINARY SCREENING VALUES (PSVs)[c] (mg/L)	GROUNDWATER REFERENCE
Inorganics (metals)			
Aluminum	OB and OD	3.60E+00	a
Antimony	OB and OD	6.00E-03	a
Arsenic	OB and OD	1.00E-02	a
Barium	OB and OD	2.00E+00	a
Beryllium	OB and OD	4.00E-03	a
Cadmium	OB and OD	5.00E-03	a
Chromium	OB and OD	4.00E-01	a
Cobalt	OB and OD	7.30E-02	a
Copper	OB and OD	1.30E+00	a
Iron	OB and OD	1.10E+00	a
Lead	OB and OD	1.50E-02	a
Manganese	OB and OD	8.80E-02	a
Mercury	OB and OD	2.00E-03	a
Nickel	OB and OD	1.00E-01	a
Selenium	OB and OD	5.00E-02	a
Silver	OB and OD	1.80E-02	a
Thallium	OB and OD	2.00E-03	a
Vanadium	OB and OD	3.60E-03	a
Zinc	OB and OD	1.10E+00	a
Explosives			
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)	OB and OD	6.10E-04	a
HMX (Octahydro-,3,5,7- tetranito-1,3,5,7-tetrazocine)	OB and OD	1.80E-01	a
1,3,5-Trinitrobenzene	OB and OD	1.10E-01	a
1,2-Dinitrobenzene	OB and OD	3.70E-03	b
1,3-Dinitrobenzene	OB and OD	3.70E-03	b
1,4-Dinitrobenzene	OB and OD	3.70E-03	b
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	OB and OD	3.60E-02	a
2-Amino-4,6-dinitrotoluene	OB and OD	7.30E-02	b
4-Amino-2,6-dinitrotoluene	OB and OD	7.30E-02	b
Nitrobenzene	OB and OD	3.40E-04	a
2,4,6-Trinitrotoluene	OB and OD	2.20E-03	a
2,4-Dinitrotoluene	OB and OD	7.30E-03	a
2,6-Dinitrotoluene	OB and OD	3.60E-03	a
2-Nitrotoluene	OB and OD	3.10E-04	b
3-Nitrotoluene	OB and OD	7.30E-01	b
4-Nitrotoluene	OB and OD	4.20E-03	b
Nitroglycerin	OB and OD	3.70E-03	b
Semi-Volatile Organic Compounds (SVOCs)			
1,2,4-Trichlorobenzene	OB and OD	7.00E-02	a
1,2-Dichlorobenzene	OB and OD	6.00E-01	a
1,3-Dichlorobenzene	OB and OD	1.80E-02	a

TABLE 10-2: GROUNDWATER PROTECTION STANDARD

HAZARDOUS CONSTITUENT	UNIT	PRELIMINARY SCREENING VALUES (PSVs)[c] (mg/L)	GROUNDWATER REFERENCE
1,4-Dichlorobenzene	OB and OD	7.50E-02	a
2,4,5-Trichlorophenol	OB and OD	3.60E-01	a
2,4,6-Trichlorophenol	OB and OD	3.60E-04	a
2,4-Dimethylphenol	OB and OD	7.30E-02	a
2,4-Dichlorophenol	OB and OD	1.10E-02	a
2,4-Dinitrotoluene	OB and OD	7.30E-03	a
2,6-Dinitrotoluene	OB and OD	3.60E-03	a
2-Chloronaphthalene	OB and OD	4.90E-02	a
2-Chlorophenol	OB and OD	3.00E-03	
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-o-cresol)	OB and OD	3.70E-03	b
2-Methylnaphthalene	OB and OD	6.26E-03	a
2-Methylphenol (o-Cresol)	OB and OD	1.80E-01	a
2-Nitroaniline	OB and OD	1.10E-02	a
3,3'-Dichlorobenzidine	OB and OD	1.50E-04	a
3-Methylphenol (m-Cresol)	OB and OD	1.80E-01	a
4-Methylphenol (p-Cresol)	OB and OD	1.80E-02	a
3-Nitroaniline	OB and OD	1.10E-02	a
4-Chloro-3-methylphenol	OB and OD	1.41E-02	a
4-Chloroaniline	OB and OD	1.50E-02	a
4-Nitroaniline	OB and OD	3.40E-03	b
4-Nitrophenol	OB and OD	1.25E-02	a
Acenaphthene	OB and OD	3.70E-02	a
Anthracene	OB and OD	1.80E-01	a
Benzo(a)anthracene	OB and OD	9.20E-05	a
Benzo(a)pyrene	OB and OD	2.00E-04	a
Benzo(b)fluoranthene	OB and OD	9.20E-05	a
Benzo(g,h,i)perylene	OB and OD	4.69E-02	a
Benzo(k)fluoranthene	OB and OD	9.20E-04	a
Benzoic acid	OB and OD	1.50E+01	a
Benzyl alcohol	OB and OD	1.10E+00	a
Bis(2-chloroethoxy)methane	OB and OD	1.10E-01	a
Bis(2-chloroethyl)ether	OB and OD	1.00E-05	a
Bis(2-chloroisopropyl)ether	OB and OD	2.70E-04	a
Bis(2-ethylhexyl)phthalate (DEHP)	OB and OD	6.00E-03	a
Butyl benzyl phthalate	OB and OD	7.30E-01	a
Chrysene	OB and OD	9.20E-03	a
Dibenzo(a,h)anthracene	OB and OD	9.20E-06	a
Dibenzofuran	OB and OD	1.20E-03	a
Diethyl phthalate	OB and OD	2.90E+00	a
Dimethyl phthalate	OB and OD	3.60E+01	a
Di-n-butyl phthalate	OB and OD	3.60E-01	a
Di-n-octyl phthalate	OB and OD	1.50E-01	a
Fluoranthene	OB and OD	1.50E-01	a

TABLE 10-2: GROUNDWATER PROTECTION STANDARD

HAZARDOUS CONSTITUENT	UNIT	PRELIMINARY SCREENING VALUES (PSVs)[c] (mg/L)	GROUNDWATER REFERENCE
Fluorene	OB and OD	2.40E-02	a
Hexachlorobenzene	OB and OD	1.00E-03	a
Hexachlorobutadiene	OB and OD	8.60E-04	b
Hexachlorocyclopentadiene	OB and OD	5.00E-02	a
Hexachloroethane	OB and OD	4.80E-03	a
Indeno(1,2,3-cd)pyrene	OB and OD	9.20E-05	a
Isophorone	OB and OD	7.10E-02	a
Nitrobenzene	OB and OD	3.40E-01	a
N-Nitrosodimethylamine	OB and OD	1.30E-06	a
n-Nitroso-di-n-propylamine	OB and OD	9.60E-06	a
N-Nitrosodiphenylamine/Diphenylamine	OB and OD	1.40E-06	a
Pentachlorophenol	OB and OD	1.00E-03	a
Phenanthrene	OB and OD	4.69E-02	a
Phenol	OB and OD	1.10E+00	a
Pyrene	OB and OD	1.80E-02	a
Volatile Organic Compounds (VOCs)			
Acetone	OB and OD	5.50E-01	a
Benzene	OB and OD	5.00E-03	a
Bromobenzene	OB and OD	2.00E-02	b
Bromodichloromethane	OB and OD	8.00E-02	a
Bromoform	OB and OD	8.00E-02	a
Bromomethane	OB and OD	8.70E-04	a
2-Butanone (Methyl Ethyl Ketone)	OB and OD	7.00E-01	a
sec-Butylbenzene	OB and OD	2.40E-02	a
tert-Butylbenzene	OB and OD	2.40E-02	a
Carbon disulfide	OB and OD	1.00E-01	a
Carbon tetrachloride	OB and OD	5.00E-03	a
Chlorobenzene	OB and OD	1.00E-01	a
Chloroethane	OB and OD	4.60E-03	a
Chloroform	OB and OD	8.00E-02	a
Chloromethane	OB and OD	1.60E-03	a
2-Chlorotoluene	OB and OD	1.20E-02	a
4-Chlorotoluene	OB and OD	2.60E+00	b
Dibromochloromethane	OB and OD	8.00E-02	a
1,2-Dibromo-3-chloropropane	OB and OD	2.00E-04	a
1,2-Dibromoethane (EDB)	OB and OD	5.00E-05	a
1,2-Dichlorobenzene	OB and OD	6.00E-01	a
1,3-Dichlorobenzene	OB and OD	1.80E-02	a
1,4-Dichlorobenzene	OB and OD	7.50E-02	a
Dichlorodifluoromethane	OB and OD	3.90E-02	a
1,1-Dichloroethane	OB and OD	8.10E-02	a
1,2-Dichloroethane	OB and OD	5.00E-03	a
1,1-Dichloroethene	OB and OD	7.00E-03	a
cis-1,2-Dichloroethene	OB and OD	7.00E-02	a

TABLE 10-2: GROUNDWATER PROTECTION STANDARD

HAZARDOUS CONSTITUENT	UNIT	PRELIMINARY SCREENING VALUES (PSVs)[c] (mg/L)	GROUNDWATER REFERENCE
trans-1,2-Dichloroethylene	OB and OD	1.00E-01	a
1,2-Dichloropropane	OB and OD	5.00E-03	a
1,3-Dichloropropane	OB and OD	7.30E-01	b
cis-1,3-Dichloropropene	OB and OD	4.00E-04	a
trans-1,3-Dichloropropene	OB and OD	4.00E-04	a
Ethylbenzene	OB and OD	7.00E-01	a
Hexachlorobutadiene	OB and OD	8.60E-04	a
Isopropylbenzene	OB and OD	6.60E-01	a
Methylene chloride (Dichloromethane)	OB and OD	5.00E-03	a
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	OB and OD	2.00E-01	a
Naphthalene	OB and OD	6.20E-04	a
Styrene	OB and OD	1.00E-01	a
1,1,1,2-Tetrachloroethane	OB and OD	4.30E-04	a
1,1,2,2-Tetrachloroethane	OB and OD	5.50E-05	a
Tetrachloroethene	OB and OD	5.00E-03	a
Toluene	OB and OD	1.00E+00	a
1,2,4-Trichlorobenzene	OB and OD	7.00E-02	a
1,1,1-Trichloroethane	OB and OD	2.00E-01	a
Trichloroethene	OB and OD	5.00E-03	a
Trichlorofluoromethane	OB and OD	1.30E-01	a
1,2,3-Trichloropropane	OB and OD	5.60E-06	a
1,2,4-Trimethylbenzene	OB and OD	1.20E-03	a
1,3,5-Trimethylbenzene	OB and OD	4.10E-02	a
Vinyl chloride	OB and OD	2.00E-03	a
Total Xylenes	OB and OD	1.00E+01	a
Other Analytes			
Cyanide	OB and OD	2.00E-01	a
Perchlorate	OB and OD	2.45E-02	a
Nitrate	OB and OD	1.00E+01	a
Nitrite	OB and OD	1.00E+00	a

Groundwater References:

a Alabama Risk Based Corrective Action Guidance Manual

b EPA Regional Screening

c Preliminary Screening Values (PSVs) are found in Table 2-2 of the Alabama Risked Based Corrective Action (ARBCA) Guidance Manual dated April 2008..

ATTACHMENT 1:

RESERVED

(Part A found in Section I of Part B Application)

PART 1 OF ATTACHMENT 2:

RESERVED

PART 2 OF ATTACHMENT 2:

RESERVED

Part 1 of Attachment 3:

RESERVED

Part 2 of Attachment 3

RESERVED

ATTACHMENT 4

RESERVED

ATTACHMENT 5

RESERVED

ATTACHMENT 6

RESERVED

ATTACHMENT 7:

RESERVED

ATTACHMENT 8:
WASTE MINIMIZATION CERTIFICATION OBJECTIVES

The Waste Minimization Program should include the following elements:

1. Top Management Support

   a. Dated and signed policy describing management support for waste minimization and for implementation of a waste minimization plan.

   b. Description of employee awareness and training programs designed to involve employees in waste minimization planning and implementation to the maximum extent feasible.

   c. Description of how a waste minimization plan has been incorporated into management practices so as to ensure ongoing efforts with respect to product design, capital planning, production operations, and maintenance.

2. Characterization of Waste Generation

   Identification of types, amounts, and hazardous constituents of waste streams, with the source and date of generation.

3. Periodic Waste Minimization Assessments

   a. Identification of all points in a process where materials can be prevented from becoming a waste, or can be recycled.

   b. Identification of potential waste reduction and recycling techniques applicable to each waste, with a cost estimate for capital investment and implementation.

   c. Description of technically and economically practical waste reduction/recycling options to be implemented, and a planned schedule for implementation.

   d. Specific performance goals, preferably quantitative, for the source reduction of waste by stream. Whenever possible, goals should be stated as weight of waste generated per standard unit of production, as defined by the generator.

4. Cost Allocation System

   a. Identification of waste management costs for each waste, factoring in liability, transportation, recordkeeping, personnel, pollution control, treatment, disposal, compliance, and oversight costs to the extent feasible.

   b. Description of how departments are held accountable for the wastes they generate.

c. Comparison of waste management costs with costs of potential reduction and recycling techniques applicable to each waste.

5. Technology Transfer

Description of efforts to seek and exchange technical information on waste minimization from other parts of the company, other firms, trade associations, technical assistance programs, and professional consultants.

6. Program Evaluation

a. Description of types and amounts of hazardous waste reduced or recycled.

b. Analysis and quantification of progress made relative to each performance goal established and each reduction technique to be implemented.

c. Amendments to waste minimization plan and explanation.

d. Explanation and documentation of reduction efforts completed or in progress before development of the waste minimization plan.

e. Explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.

References:

"Draft Guidance to Hazardous Waste Generators on the Elements of a Waste Minimization Program", 54 FR 25056, June 12, 1989.

"Waste Minimization Opportunity Assessment Manual", EPA/625/7-88/003, July 1988.