

DRAFT HAZARDOUS WASTE FACILITY PERMIT

Explosive Destruction Technology Section (EDT)
Blue Grass Army Depot, KY8-213-820-105
AI: 2805 Activity: APE20140009

**PART I
LEGAL AUTHORITY**

See this Part in the Entire Facility Section

**PART II
STANDARD CONDITIONS**

See this Part in the Entire Facility Section

**PART III
SPECIFIC CONDITIONS**

E.III.A. GENERAL STANDARDS

E.III.A.(1) Permitted Waste Streams, Descriptions, and Codes

M110, 155mm mustard (H) agent-filled projectiles, over-packed projectiles, and mustard (H) agent-filled DOT bottles from the BGAD stockpile shall be the only wastes treated in the Static Detonation Chamber (SDC). No off-site wastes shall be treated in the SDC.

The hazardous wastes generated at the Explosive Destruction Technology (EDT) Facility are listed below. Each of these hazardous wastes shall be managed as specified within this permit. "EDT Facility" includes the Static Detonation Chamber (SDC), the Off-gas Treatment System (OTS), the EDT Enclosure Building (EEB), the EDT Service Magazine (ESM), and any contiguous land, structure, or facility within the boundary shown in Figure B-5 of the EDT Permit Application.

Waste Stream	Waste Codes	Waste Description
E1	D004-D011 and/or N203	SDC (Static Detonation Chamber) Debris, Residue, and Scrap Metal
E2	D001, D002, D004-D011, D022, D026-D030, D037, D039, D040, F001-F005, and/or N003	PPE, Trash, Rags, Munition Dunnage, Operation & Maintenance Wastes
E3	D001D004-D011, D022, D026-D030, D037, D039, D040, F001-F005, N703, and/or N003	Laboratory Wastes & Solvents
E4	D001-D011, D022, D028, D030, D039, D040, F001-F005, and/or N003	Miscellaneous Waste
E5	D002, D004-D011, N203, and/or N003	Liquid from OTS (Off-gas Treatment System) Scrubbers

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E6	D004-D011,N203, and/or N003	Solids from the OTS Buffer Tank
E7	D004-D011, N203, and/or N003	Dry Salts and Particulates from the OTS Spray Dryer
E8	D001, D004-D011,N203, and/or N003	Particulates and Adsorbed Vapors in the Carbon Beds, HEPA Filters, and Pre-filters
E9	D004, D005, D006, D007, D008, D009, D010, D011, and/or N203	Dust and Metal Oxides from the OTS Bag House Filters

1
2 *[KRS 224.50-130, KRS 224.46-530, 401 KAR 31:040E]*

3
4 **E.III.A.(2) Hazardous Waste Treatment Units**

5
6 Within the Explosive Destruction Technology (EDT) Facility, the Static Detonation Chamber (SDC)
7 System and appurtenances are considered a hazardous waste miscellaneous treatment unit.

8
9 Movement of mustard (H) agent-filled items, projectiles, over-packs, and DOT 3A bottles is regulated as
10 treatment under Commonwealth of Kentucky statutes and regulations.

11
12 *[KRS 224.46-530, KRS 224.50-130(5)]*

13
14 **E.III.A.(3) Listed N-Codes**

15
16 The following compounds are listed hazardous wastes:

- 17 • N003 H (bis(2-chloroethyl) sulfide) and related compounds
- 18 • N203 Static Detonation Chamber Residue and Ash associated with H projectiles
- 19 • N703 Lab Waste associate with treated H wastes

20
21 *[KRS 224.50-130(2), 401 KAR 31:040E]*

22
23 **E.III.A.(4) Permitted Container Storage Areas**

24
25 The EDT Service Magazine (ESM) shall provide storage for M110 155mm H-filled projectiles and
26 H-filled DOT 3A bottles.

27
28 *[KRS 224.50-130, KRS 224.46-530]*

29
30 **E.III.A.(5) Approval Prior to Start of Agent Destruction Operations**

31
32 The Permittee shall not commence operations to destroy mustard (H) agent at the EDT Facility until the
33 Division has issued a letter giving approval to conduct agent destruction operations in accordance with
34 Compliance Schedule Item 17.

35
36 *[KRS 224.46-530(1)(g)]*

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1 E.III.B. GENERAL FACILITY STANDARDS

2
3 E.III.B.(1) Identification Number

4 KY8-213-820-105

5
6
7 E.III.B.(2) Required Notices

8 See Entire Facility Section

9
10 E.III.B.(3) Waste Analysis

11 See Entire Facility Section

12
13
14 E.III.B.(4) Security

15 See Entire Facility Section

16
17
18 E.III.B.(5) General Inspection Requirements

19 See Entire Facility Section

20
21
22 E.III.B.(6) Personnel Training

23 See Entire Facility Section

24
25
26 E.III.B.(7) General Requirements for Ignitable, Reactive, or Incompatible Wastes

27 See Entire Facility Section

28
29
30 E.III.B.(8) Location Standards

31 See Entire Facility Section

32
33
34 E.III.B.(9) Land Disposal Restrictions (LDR)

35
36
37 A waste, restricted by LDR, as identified in 401 KAR Chapter 37, may not be placed in a land disposal
38 unit without further treatment unless the requirements of 401 KAR Chapter 37 are met.

39
40 *[401 KAR Chapter 37]*

41
42 E.III.B.(9)(a) LDR - Prohibitions on Storage of Restricted Waste

43 See Entire Facility Section

44
45

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1 E.III.B.(9)(b) LDR - Storage Time

2
3 Munitions storage: The Permittee may store waste restricted from land disposal for up to one
4 (1) year in a permitted hazardous waste storage unit. The Permittee may store waste
5 restricted from land disposal beyond one (1) year, if such storage was solely for the purpose of
6 accumulation of such quantities of hazardous waste as are necessary to facilitate proper
7 recovery, treatment, or disposal.

8
9 EDT generated waste storage: The Permittee may store waste generated from the EDT
10 Facility and restricted from land disposal for up to one (1) year in a permitted hazardous waste
11 storage unit.

12
13 *[401 KAR 37:050, KRS 224.46-520]*

14 E.III.B.(9)(c) LDR - General Restrictions

15
16 See Entire Facility Section

17 E.III.B.(9)(d) Restrict Shipment

18
19 The Permittee shall determine if any hazardous waste generated needs to be treated before it
20 can be land disposed. The Permittee shall provide certification with each hazardous waste
21 shipment that the waste meets land disposal requirements or a written notice that the waste
22 does not meet the treatment standard.

23
24 Chemical related hazardous waste shipped off-site for treatment or disposal shall comply with
25 the Waste Analysis Plan, Attachment C.

26
27 Off-site shipments of secondary waste with headspace monitoring resulting in greater than 1
28 Vapor Screening Level (VSL), shall be disposed of at an appropriately permitted TSDf with
29 direct feed to the receiving facility's treatment unit.

30
31 *[401 KAR Chapter 37, KRS 224.46-530, KRS 224.50-130]*

32 E.III.B.(10) Compliance Schedule

33
34 Reports of compliance or non-compliance with, or any progress reports on interim and final
35 requirements contained in any compliance schedule of this permit shall be submitted no later than
36 fourteen (14) days following each scheduled date, as established in Appendix A and certified in
37 accordance with 401 KAR 38:070 Section 7.

38
39 *[401 KAR 38:030 Section 4, 401 KAR 38:070 Section 7]*

40 E.III.B.(11) Facility Construction Certification

41
42 The Permittee shall not receive hazardous waste at the EDT Facility until:

- 43
44
45
46
47
48
 - The Permittee has submitted to the Manager a letter signed by the Permittee and a registered professional engineer, in accordance with Compliance Schedule Item 5, stating that the facility

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has been constructed or modified in compliance with the application design and this Permit.

- The Manager has inspected the modified or newly constructed facility and finds it is in compliance with the Conditions of the Permit; or the Manager either has waived the inspection or has not, within fifteen (15) days of receipt of the above, notified the Permittee of its intent to inspect.

[401 KAR 38:030 Section 1]

E.III.C. PREPAREDNESS AND PREVENTION

E.III.C.(1) Design and Operation of Facility

The Permittee shall construct, maintain and operate the facility in a manner to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

The Permittee shall construct all hazardous waste management units (HWMUs) in accordance with the approved Permit Application and the drawings incorporated into the application.

[401 KAR 34:030 Section 2]

E.III.C.(2) Required Equipment

The Permittee shall keep all equipment at the facility as specified in the Contingency Plan, Attachment G, including:

- An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel
- A device, such as a telephone (immediately available at the scene of operations) or a hand-held two (2) way radio, capable of summoning emergency assistance from BGAD security force, BGAD fire department, emergency operations center (EOC), or state/local emergency response teams
- Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment
- Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or water spray systems
- For chemical warfare agent: monitoring equipment, personal protective equipment, decontamination solution

[401 KAR 34:030 Section 3]

E.III.C.(2)(a) Required Ready Munition Overpacks

The Permittee shall keep on hand munition over-packs, ready to be used to contain a leaking munition.

[KRS 224.46-530]

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1 E.III.C.(3) Testing and Maintenance of Equipment
2

3 The Permittee shall:

- 4 • Test all emergency equipment including; communication, alarm, fire, spill control, and
5 decontamination equipment at the facility for quality
- 6 • Maintain all equipment at the facility in good working order, to ensure proper operation in time of
7 emergency, consistent with the inspection schedule given in the Procedures to Prevent Hazards,
8 Attachment F

9
10 *[401 KAR 34:030 Section 4]*

11 E.III.C.(4) Access to Communications or Alarm Systems
12

- 13 • Whenever hazardous waste is present in the EDT Facility, all personnel shall have immediate access
14 to a telephone or a hand-held two (2) way radio, capable of summoning emergency assistance, either
15 directly or through visual or voice contact with another employee.
- 16 • Permittee shall provide a radio receiver, which could be stationary, at the Division's office in the
17 Personnel Support Building capable of monitoring communications in the EDT Facility.

18
19
20 *[401 KAR 34:030 Section 5, KRS 224.46-530(1)(g)]*

21 E.III.C.(5) Required Aisle Space
22

23 The Permittee shall maintain adequate aisle space in the ESM to allow unobstructed movement of
24 personnel, fire protection equipment, spill control equipment, and decontamination equipment to any
25 area of operation inside the ESM during emergencies.
26

27
28 *[401 KAR 34:030 Section 6]*

29 E.III.C.(6) Arrangements with Local Authorities
30

31 See Entire Facility Section
32

33 E.III.D. CONTINGENCY PLAN AND EMERGENCY PROCEDURES
34

35 E.III.D.(1) Implementation of Plan
36

37 The Permittee shall immediately carry out the procedures in Contingency Plan, Attachment G,
38 whenever there is an imminent or actual emergency situation including a fire, explosion, or unplanned
39 sudden or non sudden release of any hazardous waste or hazardous waste constituents which could
40 threaten human health or the environment, including: activate internal facility alarms or communication
41 systems, where applicable, to notify all facility personnel and appropriate state or local agencies with
42 designated response roles if their help is needed.
43

44
45 *[401 KAR 34:040 Sections 2 and 7]*
46

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1 E.III.D.(2) Content of Plan

2
3 The Contingency Plan shall contain the following information and be kept up to date:

- 4 • Actions facility personnel shall take in response to fires, explosions, or any unplanned sudden or non-
- 5 sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at
- 6 the facility
- 7 • Arrangements agreed to by local emergency services
- 8 • List of Emergency Coordinators
- 9 • List, description, and location of all emergency equipment
- 10 • Evacuation plan for facility personnel that describes signals, routes, and alternate routes

11
12 *[401 KAR 34:040 Section 3]*

13
14 E.III.D.(3) Copies of Plan

15
16 A copy of the Contingency Plan, Attachment G, and all revisions to the plan shall be:

- 17 • Maintained at the EDT Control Room and the BGCAPP Main Plant Control Room
- 18 • Provided to BGAD Emergency Operations Center (EOC), all local police departments, fire
- 19 departments, hospitals, and state and local emergency response teams that may be called upon to
- 20 provide emergency services
- 21 • Provided to all outside agencies, contractors, and emergency response providers that have a
- 22 Memorandum of Agreement (MOA) with the facility to provide assistance in an emergency
- 23 • Provided to the Hazardous Waste Branch Manager

24
25 *[401 KAR 34:040 Section 4]*

26
27 E.III.D.(4) Amendment of Plan

28
29 The Contingency Plan, Attachment G, shall be reviewed, and immediately amended, if necessary,

30 whenever:

- 31 • The facility permit is revised
- 32 • The plan fails in an emergency
- 33 • The facility changes (e.g., in its design, construction, operation, maintenance, or other
- 34 circumstances) in a way that materially increases the potential for fires, explosions, or releases of
- 35 hazardous waste or hazardous waste constituents, or changes the response necessary in an
- 36 emergency
- 37 • There is a change to the list of Emergency Coordinators
- 38 • The list of emergency equipment changes
- 39 • Administrative updates and/or changes as identified above to the Contingency Plan may not warrant
- 40 a permit modification. These shall be submitted to the Hazardous Waste Branch Manager for
- 41 determination in accordance with 401 KAR 38:040 Section 3.

42
43 *[401 KAR 34:040 Section 5, 401 KAR 38:040 Section 3]*

44

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1 E.III.D.(5) Emergency Coordinator

2
3 At all times, there shall be an Emergency Coordinator either at the facility or on call with the
4 responsibility for coordinating all emergency response measures. The Emergency Coordinator shall be
5 thoroughly familiar with all aspects of the facility's Contingency Plans, all operations and activities at the
6 facility, the location and characteristics of waste handled, the location of all records within the facility,
7 and the facility layout. The Emergency Coordinator shall have the authority to commit the resources
8 needed to carry out the Contingency Plan.

9
10 *[401 KAR 34:040 Section 6]*

11 E.III.D.(6) Emergency Procedures

12 E.III.D.(6)(a) Activate Alarms

13
14
15 Whenever there is an imminent or actual emergency situation, the Emergency Coordinator shall
16 immediately activate internal facility alarms or communication systems, where applicable, to notify
17 all facility personnel, and notify appropriate state and local agencies as specified in the
18 Contingency Plan.

19
20
21 *[401 KAR 34:040 Section 7]*

22 E.III.D.(6)(b) Notify Off Post Emergency Responders

23
24
25 If the EDT Emergency Coordinator and BGAD EOC determine that the facility has had a release,
26 fire, or explosion which could threaten human health or the environment outside the facility,
27 findings shall be reported as follows:

- 28
- 29 • Immediately notify appropriate local authorities
 - 30 • Immediately notify either the government official designated as the on-scene coordinator for that
31 geographical area, or the National Response Center (using their 24-hour toll free number
32 800/424-8802)
 - 33 • Be available to help appropriate officials decide whether local areas should be evacuated
 - 34 • Notify the Madison County Emergency Operations Center and Kentucky Emergency
35 Management (KYEM).

36
37 *[401 KAR 34:040 Section 7]*

38 E.III.D.(6)(c) Release, Fire, or Explosion

39
40 The Emergency Coordinator and the BGAD EOC shall assess possible hazards to human health or
41 the environment that may result from a release, fire, or explosion. This assessment shall consider
42 both direct and indirect effects of the release, fire, or explosion (for example: the effects of any
43 toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface
44 water run-off from water or firefighting chemicals used to control fire and heat-induced explosions).

45
46 *[401 KAR 34:040 Section 7]*

47

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E.III.D.(6)(d) Affected Areas

The Emergency Coordinator shall ensure that, in the affected area of the facility:

- No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.
- All emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed.

[401 KAR 34:040 Section 7]

E.III.D.(6)(e) Evaluate Release

Whenever there is a release, fire, or explosion, the Emergency Coordinator shall communicate the details of the emergency to the Control Room Operator (CRO), which in coordination with the BGAD EOC, shall immediately identify the character, exact source, amount, and aerial extent of any released materials.

During the emergency, the Emergency Coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread. These measures shall include stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

[401 KAR 34:040 Section 7]

E.III.D.(6)(f) Secure Recovered Waste

Immediately after an emergency, the Emergency Coordinator shall provide for treating, storing, or disposing of recovered waste; contaminated soil, surface, or ground water; or other material that may result from a release, fire, or explosion at the facility.

[401 KAR 34:040 Section 7]

E.III.D.(6)(g) Environmental Emergency Written Report

The Permittee shall note in the Operating Record the time, date, and details of any incident that requires implementing the Contingency Plan. Within fifteen (15) days after the incident, the Permittee shall submit a written report on the incident to the Hazardous Waste Branch Manager and the Division Field Office. The report shall include:

- Name, address, and telephone number of the Permittee
- Name, address, and telephone number of the facility
- Name, address, and telephone number of persons having actual knowledge of the facts surrounding the release or threatened release
- Date, time, and type of incident (for example, fire or explosion)
- Name, quantity, concentration of materials, pollutant, or contaminant involved
- Precise location, circumstances, and cause
- The extent of injuries, if any
- An assessment of actual or potential hazards to human health or the environment, and daily

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efforts taken by the Permittee to control or mitigate, including monitoring data

- Estimated quantity and disposition of recovered material that resulted from the incident.
- Changes in equipment, procedures, personnel, etc. to prevent similar incidents
- Any other pertinent or requested information

[401 KAR 34:040 Section 7, KRS 224.1-400, KRS 224.46-530]

E.III.D.(6)(h) Daily Notification During Environmental Emergencies

The Permittee shall notify the Division Field Office and Hazardous Waste Branch daily during an environmental emergency operation by telephone, e-mail, or fax. The following information, at a minimum, shall be provided:

- A summary of the previous day's operations
- A summary of planned operations for the day, including monitoring and movement/handling
- Results of any monitoring since the last daily notification
- Any other pertinent or requested information

[401 KAR 38:030 Section 3, KRS 224.46-530]

E.III.D.(6)(i) Memorandums of Agreement (MOA)

The Permittee shall keep current copies of all MOAs with off-post emergency responders at an on-site location. If, at any time, the Permittee enters into an agreement with an off-post emergency responder not listed in the Contingency Plan, Attachment G of the application, or chooses not to renew an agreement with an off-post emergency responder listed in the Contingency Plan, then the Permittee shall notify the Hazardous Waste Branch Manager.

[401 KAR 34:040 Section 3]

E.III.D.(6)(j) Monitoring During Halted Operations

If the facility stops operations in response to a fire, explosion, or release, the Emergency Coordinator shall ensure that monitoring occurs for leaks, pressure buildup, gas generation, or ruptures in the EDT Facility.

[401 KAR 34:040 Section 7]

E.III.E. MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING

E.III.E.(1) Manifest System

See Entire Facility Section

E.III.E.(2) Manifest Discrepancies

See Entire Facility Section

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E.III.E.(3) Operating Record

The Permittee shall maintain an operating record at the EDT facility describing the hazardous waste activities. The record shall include information as it becomes available, as listed in F.III.E.(3), as well as the following information:

- A log of feed times and materials fed shall be maintained. This information shall be used to demonstrate compliance with maximum agent and explosive feed/treatment rates.
- A log of all operating/processing hours used during the ramp-up period, calculated in accordance with E.III.XA.(6)
- Description and quantity, including number and net explosive weight (NEW) of each hazardous waste projectile, DOT bottle, and over-pack treated in each feed event into the SDC.
- Copies of all documents showing the quantity and disposition of metal scrap and residues transported from the EDT Facility with the bill of lading or manifest number (if applicable).
- Records associated with off-site shipments of hazardous wastes generated at the facility, the types and locations of destination facilities, and how the wastes were managed at the destination facilities (for example: recycling, treatment, storage, or disposal).
- Records and results of waste analyses and waste determinations performed.
- Annual statement of certification regarding the program for the reduction in volume and toxicity of hazardous waste generated. The reduction shall be to the degree determined by the Permittee to be economically practicable. The proposed method of treatment and/or storage shall be a practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.
- Records of quantities and date of each shipment of hazardous waste placed in a land disposal unit pursuant to 401 KAR 34:050 Section 4.
- The Permittee shall also ensure that the facility that receives, treats, and/or disposes of hazardous waste generated at the permitted facility has the appropriate permits to treat and/or dispose of the waste. The Permittee shall retain documentation of treatment from the treatment or disposal facility.
- The date and time of all Feed Prohibitive Interlocks (FPI) malfunctions to include 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 all equipment monitoring and inspection records for monitoring equipment compiled under the conditions of this permit.
- Daily Limiting Conditions of Operations checklist and any necessary mitigation measures
- Any mustard (H) agent item leak, not contained in an over-pack, prior to treatment shall be documented and steps taken in response to the leak shall be documented each day until agent is no longer detected
- Document any Worker Population Limit (WPL) exceedance by completion of BGCAPP WPL Exceedance Notice form

[401 KAR 31:010, 401 KAR 34:020, 401 KAR 34:040 Section 7, 401 KAR 34:050 Section 4, 401 KAR 34:290, 401 KAR 37:010 Section 7, KRS 224.50-130(5)]

E.III.E.(4) Records

See Entire Facility Section

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1 E.III.E.(5) Annual Report

2
3 See Entire Facility Section

4
5 E.III.E.(6) Unmanifested Waste Report

6
7 See Entire Facility Section

8
9 E.III.E.(7) Additional Reports

10 *(This condition is in addition to F.III.E.(7))*

11
12 E.III.E.(7)(a) Immediate Notification

13
14 The Permittee shall report to the Division any non-compliance with the permit which may endanger
15 human health or the environment. Any information shall be provided orally within two (2) hours
16 from the time the Permittee becomes aware of the circumstances (Kentucky twenty-four (24) hours
17 reporting number (800) 928-2380). This oral report shall include information concerning release of
18 any hazardous waste or hazardous constituents that may cause an endangerment to public
19 drinking water supplies, including both surface water and groundwater used for public drinking
20 water supply.

21
22 Non-compliance which requires immediate notification includes, but is not limited to:

- 23 • A determination by the Emergency Coordinator that there is an imminent or actual release, fire,
24 or explosion which could threaten human health or the environment
- 25 • Any Environmental Release, including but not limited to, those defined by E.III.F.(3)
- 26 • A confirmed exposure of an unprotected worker to mustard (H) agent exceeding the Short-Term
27 Exposure Limit (STEL) defined in E.III.F.(2)
- 28 • A determination that performance standards for emissions and agent Destruction and Removal
29 Efficiency (DRE) are not being met
- 30 • A malfunction or if any FPI is out of compliance with the Process Control Parameter defined in
31 E.III.XA.(3)(c)

32
33 *[401 KAR 38:030 Section 1, KRS 224.46-530(1)(g)]*

34
35 E.III.E.(7)(b) Follow-up Reporting

36
37 The Permittee shall provide the Division a written submission within five (5) days of the notification
38 under Condition E.III.E.(7)(a).

39
40 The written submission shall contain:

- 41 • A description of the non-compliance and its cause, which shall include:
 - 42 – Name, address, and telephone number of the owner or operator and the reporter
 - 43 – Name, address, and telephone number of the facility
 - 44 – Date, time, and type of incident
 - 45 – Name and quantity of material(s) involved
 - 46 – The extent of injuries, if any
 - 47 – An assessment of actual or potential hazard to the environment and human health outside the
48 facility, where this is applicable

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– Estimated quantity and disposition of recovered material that resulted from the incident

- Periods of non-compliance, including exact dates and times
- Whether the non-compliance has been corrected
- If the non-compliance has not been corrected, the anticipated time it is expected to continue
- Steps planned or taken to reduce, eliminate, and prevent reoccurrence of the non-compliance

[401 KAR 38:030 Section 1]

E.III.E.(8) Annual QA/QC Reporting

The Permittee shall submit to the Division, no later than March 1 of each year, a report that summarizes the QA/QC reliability problems experienced with mustard (H) agent stack gas monitors and control devices (for example: feed prohibitive interlocks (FPI)) during the preceding calendar year. This summary report shall include, but not be limited to:

- Identification of the monitor or control device experiencing the problem
- Identification of the type of problem
- Date the problem was experienced
- Frequency of the problem
- Corrective action implemented to correct the problem, and whether or not or to what degree the corrective action was successful

[KRS 224.46-530(1)(g)]

E.III.F. MONITORING REQUIREMENTS

E.III.F.(1) Groundwater Monitoring Requirements

(RESERVED)

E.III.F.(2) Air Monitoring Requirements

- When N003 waste is present at the EDT Facility, the permittee shall continuously monitor airborne concentrations of agent to prevent an exposure exceeding Airborne Exposure Limits, to determine the appropriate level of PPE for workers, and to ensure the general population is not at risk due to airborne agent concentrations.
- Permittee shall operate agent monitoring systems in accordance with the EDT Permit Application, the Laboratory Analysis and Monitoring Plan (LAMP), the Perimeter Monitoring Plan (PMP), and Monitoring Location and Agent Category Table, Attachment O.
- The Permittee shall use a Near Real Time (NRT) actionable alert set point of 4.0 VSL and for monitoring the OTS Stack.
- Monitoring at the OTS stack shall be configured with two NRT instruments arranged with staggered cycle times.
- Only one OTS Stack NRT instrument shall be off-line at any given time for daily challenge and/or maintenance, up to a maximum of 1 hour, when hazardous waste is being processed.
- Waste feed shall be immediately prohibited if both OTS Stack NRT monitors are offline at the same time.

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- Airborne and related exposure limits for mustard (H) agent are below.

Level	GPL _(a)	WPL _(b)	STEL _(c)	VSL _(d)	SEL/ASC _(e)
Averaging Time	12 hrs.	12 hrs.	15 min	Variable	Variable
Limit (mg/m ³)	0.00002	0.00027	0.003	0.003	0.03
Monitoring Method	Historic _(f)	Historic	NRT _(g)	NRT	NRT

- (a) GPL is the General Population Limit and is an airborne agent exposure limit for the general population
- (b) WPL is Worker Population Limit and is an airborne agent exposure limit for the worker population
- (c) STEL is Short Term Exposure Limit and is a concentration based on a 15-minute exposure for an unprotected worker, but is evaluated with an instrument using the shortest analytic cycle time practical to obtain accurate results. Since most NRT_(h) cycle times are less than 15min (typically 5-6min), confirmed readings and durations are used to calculate whether the STEL has been reached or exceeded.
- (d) VSL is Vapor Screening Level and is an agent vapor concentration-only value independent of time. As such, it is used to define a level of contamination for items, wastes, engineering controls systems (for example, filter beds and vestibules) and facilities under specific environmental conditions. VSL is the readout level of certain NRT monitors and the value is applied to process or operational monitoring as opposed to worker exposure.
- (e) SEL is Source Emission Limit and ASC is Allowable Stack Concentration. These are vapor agent concentration values that are independent of time and are measured with NRT instruments.
- (f) Historic monitoring is used when the sample analyzed represents an extended period of time and the results are not known until laboratory analysis is completed after the sampling event has been completed.
- (g) NRT is Near Real-Time monitoring and is conducted with instruments that have the capability to collect, analyze, and report or display results within 15 minutes. They also provide audible and remote alarms when levels are detected at, or above, a specific alarm set point.

[401 KAR 34:250]

E.III.F.(3) Environmental Releases

The Permittee shall operate the EDT Facility to prevent an environmental release of hazardous waste or hazardous waste constituents.

The Permittee shall report an environmental release in accordance with E.III.E.(7).

An environmental release shall include but is not limited to the following:

- Confirmed mustard (H) agent detection equal to or greater than 0.7 VSL at the ESM Ventilation Stack, or otherwise releasing agent from the ESM.
- Confirmed mustard (H) agent detection equal to or greater than 4.0 VSL at the OTS stack.
- Confirmed mustard (H) agent detection equal to or greater than 0.7 VSL at the HVAC stack, or otherwise releasing agent from the EDT Enclosure Building (EEB).
- Confirmed mustard (H) agent detection equal to or greater than GPL, as defined in Condition E.III.F.(2) at a perimeter monitoring location shall be considered evidence that an environmental release has taken place.

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- Confirmed mustard (H) agent detection in the EEB Vestibule during or immediately following the movement of munitions from the ESM into the EEB, except munitions moved into the EEB Vestibule within an EONC.

The confirmed detection of an "environmental release" that may threaten human health or the environment shall require activation of the Contingency Plan contained in the EDT Permit Application.

[401 KAR 34:040, KRS 224.1-400(1)(b), KRS 224.1-400(4), KRS 224.50-130]

E.III.F.(4) Inspection of Monitoring Equipment

The Permittee shall conduct daily inspections of monitoring equipment to ensure they are working properly. Inspections and maintenance shall ensure monitoring systems are meeting requirements of the LAMP. These inspection records shall be maintained as part of the facility Operating Record and made available for inspection by the Division.

[401 KAR 34:250]

E.III.G. CLOSURE & POST-CLOSURE

See Entire Facility Section

E.III.H. FINANCIAL REQUIREMENTS

Not Applicable

E.III.I. USE AND MANAGEMENT OF CONTAINERS

E.III.I.(1) Condition of Containers

If a container holding (non-munition) hazardous waste is not in good condition, including but not limited to severe rusting, apparent structural defects, or if it begins to leak, the Permittee shall:

- Transfer the hazardous waste from this container to a container that is in good condition, or
- Use over-packs as appropriate to handle the size of the container.

Leaking chemical projectiles and DOT bottles shall be placed in approved over-packs described in Process Information, Attachment D. The leaking projectiles and DOT Bottles shall be handled as described in Procedures to Prevent Hazards, Attachment F.

[401 KAR 34:180 Section 2]

E.III.I.(2) Compatibility of Waste with Containers

The Permittee shall use containers made of, or lined with, materials which do not react with, and are otherwise compatible with, the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired.

[401 KAR 34:180 Section 3]

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E.III.I.(3) Management of Containers

E.III.I.(3)(a) Container Storage Area

The Permittee shall operate, maintain, and inspect the EDT Service Magazine (ESM) as specified under the Process Information, Attachment D, and Prevention of Hazards, Attachment F.

[401 KAR 34:180 Sections 4 and 5]

E.III.I.(3)(b) Container Total Volume

The Permittee shall ensure that any hazardous wastes, non-hazardous wastes, or other liquids stored in the permitted ESM are counted toward the total permitted container storage volume. The Permittee shall maintain inventories to ensure that permitted storage capacities are not exceeded.

[401 KAR 34:180 Section 6, KRS 224.46-530(1)(g)]

E.III.I.(3)(c) Permitted Container Storage Unit and Volume

The maximum storage capacities of the ESM are shown below:

EDT Service Magazine-- Container Storage Area	Description of Hazardous Wastes	EPA Hazardous Waste Number	Maximum Volume [Units]	Maximum Number and Type of Containers	Maximum Net Explosive Weight
Subpart I Permitted Hazardous Waste Container Storage Area	Chemical Agent (H-mustard) filled projectiles (155mm); over-packed containers of these projectiles; stockpile derived DOT bottles (2) containing H-mustard; and explosives contained within the projectiles	D003, N003	1328 gallons H-mustard (total) in projectiles and 5.25 (1.25 and 4.0 liters) total liters by volume (1.4 gallons) in DOT bottles.	Maximum storage capacity is 1,206 155mm projectiles (50.25 skids; 3 pallets banded together) and two DOT bottles.	500 lbs

[401 KAR 34:180 Section 6, KRS 224.46-530(1)(g)]

E.III.I.(3)(d) Container Waste Restriction

The Permittee shall have permitted storage for the projectiles, over-packed projectiles, and DOT bottles containing mustard (H) agent in the ESM.

The Permittee shall provide secondary containment for any hazardous waste container that contains free liquids while in a less than 90 day accumulation area.

[KRS 224.46-530(1)(g)]

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1 E.III.I.(3)(e) Performance Oriented Packaging (POP)

2
3 The Permittee shall store non-munition, hazardous waste in containers that meet Department of
4 Transportation (DOT) Performance Oriented Packaging standards.

5
6 *[401 KAR 32:030 Section 1]*

7
8 E.III.I.(3)(f) Storage of Non-Hazardous Materials

9
10 The Permittee may store non-hazardous materials/waste in the ESM provided the Permittee meets
11 the following requirements:

- 12 • Conducts necessary testing and analysis in accordance with the Waste Analysis Plan,
13 Attachment C, in order to ensure that materials stored in the ESM are compatible
- 14 • Ensure that any products or non-hazardous wastes stored in the ESM area are counted toward
15 the total permitted container storage volume
- 16 • Maintain inventories to ensure that permitted storage capacities are not exceeded
- 17 • Comply with all applicable requirements of this permit while storing containers of products or
18 non-hazardous materials/waste in the ESM

19
20 *[KRS 224.46-530]*

21
22 E.III.I.(3)(g) Container Closed

23
24 A container holding any hazardous waste shall always be closed during storage except when it is
25 necessary to add or remove waste.

26
27 *[401 KAR 34:180 Section 4]*

28
29 E.III.I.(3)(h) Container Handling

30
31 A container holding hazardous waste shall not be opened, handled, or stored in a manner which
32 may rupture the container or cause it to leak. Mustard (H) Agent Projectiles and DOT Bottles
33 located anywhere within the EDT facility shall be moved only in emergencies or as identified in
34 Process Descriptions, Attachment D.

35
36 *[401 KAR 34:180 Section 4, KRS 224.50-130(5)]*

37
38 E.III.I.(3)(i) Container Labeling

- 39 • Non-munition containers shall be labeled in accordance with applicable regulations.
- 40
41 • Each pallet or skid of projectiles, over-packed projectiles, and DOT bottles in permitted storage
42 shall be labeled with the words "Hazardous Waste". Over-packs in which hazardous waste are
43 placed, shall be labeled "Hazardous Waste" and labeled with the date that hazardous waste is
44 added. Additional labeling shall clearly identify the content of the over-pack. Hazardous waste
45 containers shall be positioned so that labels are visible and easy to inspect.

46
47
48 *[401 KAR 32:030 Section 2 and Section 5, KRS 224.46-530(1)(g)]*

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1 E.III.I.(3)(j) Maximum Free Liquid

2
3 The Permittee shall not store more than 1,328 gallons of free liquid in the ESM. This volume is
4 based on 1.1 gallons of mustard (H) agent per projectile and the maximum number of projectiles
5 (1,206) shown in Process Information, Attachment D.
6

7 *[401 KAR 34:180 Section 6]*
8

9 E.III.I.(4) Container Inspections

- 10
11 • Permittee shall conduct weekly inspections for leaking containers and deterioration of containers
12 caused by corrosion or other factors in accordance with Inspection Schedule, Attachment P.
13 • Permittee shall conduct weekly inspections of secondary containment system in the ESM for
14 deterioration in accordance with Attachment P.
15 • Permittee inspection procedures shall be based upon the Procedures to Prevent Hazards,
16 Attachment F.
17

18 *[401 KAR 34:180 Section 5]*
19

20 E.III.I.(5) Containment System

21
22 The ESM shall be maintained and operated as follows:

- 23 • Monitoring and inspection procedures for the ESM shall assure the controls and containment
24 systems are working as designed and agent is not escaping from the ESM
25 • Base which underlies the containers shall be free of cracks/gaps and be sufficiently impervious to
26 contain leaks, spills, and accumulated precipitation until the collected material is removed
27 • Base shall be sloped or the containment system shall be otherwise designed and operated to drain
28 and remove liquids resulting from leaks, spills, or precipitation
29 • The containment system shall have sufficient capacity to contain ten (10) percent of the volume of
30 containers or the volume of the largest container, whichever is greater. Containers that do not
31 contain free liquids need not be considered in this determination.
32 • Run-on into the containment system shall be prevented unless the collection system has sufficient
33 excess capacity to contain any run-on which might enter the system
34 • Liquid in ESM secondary containment shall be removed to the maximum extent possible within 24
35 hours of discovery
36

37 *[401 KAR 34:180 Section 5 and Section 6, KRS 224.50-130]*
38

39 E.III.I.(6) Special Requirements for Ignitable or Reactive Waste

40
41 Containers holding ignitable or reactive waste shall be located at least fifteen (15) meters from the
42 facility's property line.
43

44 *[401 KAR 34:180 Section 7]*
45

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E.III.I.(7) Special Requirements for Incompatible Wastes

Incompatible chemical related hazardous wastes and materials shall not be placed in the same container. Chemical related hazardous wastes shall not be placed in an unwashed container that previously held an incompatible waste or material. A storage container holding a chemical related hazardous waste that is incompatible with any waste or materials stored nearby in other containers, shall be separated from the incompatible materials, or protected from them by means of a dike, berm, wall, or engineering controls.

[401 KAR 34:180 Section 8]

E.III.I.(8) Removal At Closure

At closure the Permittee shall remove all hazardous waste residues from the containment system and remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed from the facility in accordance with the Closure Plan, Attachment I.

[401 KAR 34:180 Section 9]

E.III.I.(9) ESM Operations and Maintenance

The Permittee shall operate, maintain, and inspect the ESM as specified under the Process Information and Prevention of Hazards, Attachments D and F, respectively.

[401 KAR 34:030, 401 KAR 34:040, 401 KAR 34:180]

E.III.I.(9)(a) ESM Container Storage

The container storage area within the ESM shall be maintained and operated to allow compliance with the inspection and container management requirements described in Procedures to Prevent Hazards, Attachment F, and include:

- Maximum storage of 151 pallets but not to exceed 1206 projectiles as shown in Figure D-4 of Attachment D
- Pallets and skids shall be stacked no more than two high and ensure safe storage of containers/projectiles
- While N003 waste is present, the ESM door shall remain closed when the ESM is not being accessed

[401 KAR 34:030, 401 KAR 34:180, 401 KAR 34:370]

E.III.I.(9)(b) ESM Design and Air Monitoring

- The ESM shall provide vapor containment to prevent the uncontrolled release of agent to the environment.
- When N003 waste is present in the ESM, a carbon filtration unit with multiple carbon banks shall be provided in continuous operation to maintain the interior of the ESM at a negative pressure and prevent the uncontrolled release of the mustard (H) agent vapors to the environment.

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- The ESM atmosphere shall be continuously monitored for agent when N003 waste is present inside the ESM, including periods of time where projectiles and DOT bottles are being loaded into or being removed.

[401 KAR 34:370 Section 2, KRS 224.46-530(1)(g), KRS 224.50-130]

E.III.J.	TANK SYSTEMS	(RESERVED)
E.III.K.	SURFACE IMPOUNDMENTS	(RESERVED)
E.III.L.	WASTE PILES	(RESERVED)
E.III.M.	LAND TREATMENT	(RESERVED)
E.III.N.	LANDFILLS POST CLOSURE REQUIREMENTS	(RESERVED)
E.III.O.	INCINERATORS/BIF	(RESERVED)
E.III.P.		(RESERVED)
E.III.Q.		(RESERVED)
E.III.R.		(RESERVED)
E.III.S.	SPECIAL PROVISIONS FOR CLEANUP	(RESERVED)
E.III.T.		(RESERVED)
E.III.U.		(RESERVED)
E.III.V.		(RESERVED)
E.III.W.	DRIP PADS	(RESERVED)

E.III.XA. MISCELLANEOUS UNIT "A": EXPLOSIVE DESTRUCTION TECHNOLOGY (EDT)

E.III.XA.(1) General Requirements

The EDT Facility shall be operated, maintained, and inspected, as specified in Process Information, Attachment D and Procedures to Prevent Hazards, Attachment F.

[401 KAR 34:250, 401 KAR 34:350]

E.III.XA.(2) Air Pollution Control System Requirements

- The EEB shall provide vapor containment to prevent the uncontrolled release of agent to the environment.
- When N003 waste is present in the EEB, cascading ventilation and a carbon filtration unit with multiple carbon banks shall be provided in continuous operation to maintain the interior of the EEB at a negative pressure and prevent the uncontrolled release of the mustard (H) agent vapors to the environment.
- The permittee shall provide continuous agent monitoring of the EEB atmosphere and the EEB HVAC Stack when N003 waste is present inside the EEB, including periods of time where projectiles and DOT bottles are being loaded or removed.
- Prior to initiating a feed event, the permittee shall provide continuous agent monitoring at the OTS stack when treating N003 waste in the SDC system.

[401 KAR 34:250]

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E.III.XA.(3) Operating Requirements

E.III.XA.(3)(a) Hours of Operation

The EDT Facility may conduct EDT Unit operations and movement of mustard (H) agent-filled items between the ESM and the EEB 24 hours per day.

[401 KAR 34:250]

E.III.XA.(3)(b) Waste Feed Limits

- The Permittee shall be authorized to commence hazardous waste feed to the SDC at rates up to 50 percent of the maximum feed rates achieved during demonstration testing, following successful completion of the Demonstration Test.
- The Permittee shall be authorized to commence hazardous waste feed to the SDC at rates up to 75 percent of the maximum feed rates achieved during demonstration testing upon submittal and Division approval of a Preliminary report showing compliance with the operating requirements and performance standards.
- The Permittee shall be authorized to commence hazardous waste feed to the SDC at rates up to 100 percent of the maximum feed rates achieved during demonstration testing upon submittal and Division approval of the Final Demonstration Test Report showing compliance with the operating requirements and performance standards.
- Feed rates for agent and energetics (NEW) shall be established by using munitions specific data available from Munitions Items Disposition Action System (MIDAS) reports generated by the Defense Ammunition Center (DAC).
- Feed determinations for the SDC shall be made for new or unique feed events. One determination shall be sufficient for identical feed trays.
- Feed events shall not mix different items listed below.
- The Permittee shall not exceed the feed rate limits below.

Item	Content (pounds/item)		Maximum Feed Rate (items/feed event)	Maximum Feed Rate (items/hour)	Total Feed Rate (pounds/hour)	
	Agent	NEW			Agent	NEW
M110 155mm H Projectiles	11.7	0.42	3	6	70.2	2.484
Over-packed M110 H Projectile	11.7	0.42	1	1	11.7	0.414
DOT Bottle 291429	3.5	None	1	1	3.5	None
DOT Bottle 042860	11.25	None	1	1	11.25	None

[401 KAR 34:250, 401 KAR 35:050 Section 4]

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E.III.XA.(3)(c) Operating Conditions

- Prior to initiating a feed event and during treatment of waste, the Permittee shall operate, continuously monitor, and comply with the Feed Prohibitive Interlocks (FPI), specified below.
- Waste feed shall be stopped immediately and is prohibited during an imminent or actual emergency situation.
- Prior to releasing the scrap from the SDC, the contents of the SDC shall be treated for a minimum of 15 minutes, at no less than 1,000 ° F, following the last detonation or deflagration prior to the dumping activity.
- Each feed shall be treated for a minimum of 15 minutes at 1,000°F.
- OTS Filtration System shall use at least one bank of sulfur-impregnated carbon at all times when treating waste.
- Wastes shall only be fed when the SDC System is operating in compliance with FPI conditions shown in the table below and Performance Standards of E.III.XA.(3)(d).
- Waste feed to loading chamber 2 (LC2) shall be automatically prohibited when an FPI condition violates the Process Control Parameter below. The transfer of an item from loading chamber 1 (LC1) would be prohibited if LC1 gate is closed. Should an FPI occur after the transfer into LC2 has begun or has occurred, the projectiles cannot remain in LC2 and must be dropped into the detonation chamber.
- If an FPI condition is violated, the Permittee shall not restart waste feed until the problem causing the malfunction has been identified and corrected, and all other parameters are within permit limits.

System ID and FPI Item Number	Process Data Description	Range	Process Control Parameter
SDC-FPI-01	Detonation Chamber Static Pressure Indication	MAX	Not Equal to or Greater than 18 psi For 10 Seconds
SDC-FPI-02	Detonation Chamber Temperature Indication (Bottom)	MIN	Not Equal to or Less than 1,000°F (538 °C) (Permit Required Temperature)
SDC-FPI-03	Detonation Chamber Temperature Indication (Side)	MIN	Not Equal to or Less than 1,000°F (538 °C) (Permit Required Temperature)
OTS-FPI-04	Thermal Oxidizer Temperature	MIN	Not Equal to or Less than 1,400° F (760° C) (Permit Required Temperature)
OTS-FPI-05	Thermal Oxidizer Pressure	MAX	Not Equal to or Greater than 0.0 psi For 10 Seconds
OTS-FPI-06	Spray Dryer Temperature	MAX	Not Equal to or Greater than 446°F (230°C)
OTS-FPI-07	Bag-House Differential Pressure	MAX	Not Equal to or Greater than 0.29 psi For 10 seconds
OTS-FPI-08	Acid Scrubber Process Fluid Flow	MIN	Not Equal to or Less than 8 gpm (1.0 cf/m)

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System ID and FPI Item Number	Process Data Description	Range	Process Control Parameter
OTS-FPI-09	Quench Tower Process Fluid Flow	MIN	Not Equal to or Less than 1.5 gpm
OTS-FPI-10	Quench Throat Process Fluid Flow	MIN	Not Less than 1.5 gpm
OTS-FPI-11	Quench Tower Temperature	MAX	Not Equal to or Greater than 185°F (85°C) Split Alarm (either or)
OTS-FPI-12	Neutral Scrubber Discharge Temperature	MAX	Not Equal to or Greater than 190°F (87.8°C)
MH-FPI-13	Mustard (H) Agent Emissions IONEX 4000 Filter Unit OTS Stack	MAX	Not Equal to or Greater than 0.012 mg/m ³
ION-FPI-14	Mustard (H) Agent Emissions IONEX 16000 Filter Unit HVAC Stack	MAX	Not Equal to or Greater than 0.0021 mg/m ³

Footnote:

- (1) These interlocks are known as Feed Prohibitive Interlocks (FPIs). Operational process control indicator parameter(s) will function as FPIs which will prohibit the transfer from Loading Chamber 1 into Loading Chamber 2 until all conditions are met or are within range. The transfer of an item from Loading Chamber 1 would be prohibited if Loading Chamber 1 gate is closed. NOTE: Should an FPI occur after the transfer into Loading Chamber 2 has begun or has occurred, the projectiles cannot remain in Loading Chamber 2 and process must continue for safety reasons (projectile must be dropped into detonation chamber).
- (2) The 10 second response time associated with Detonation Chamber static pressure, Thermal Oxidizer pressure, and Bag-House differential pressure allows the system time to respond to the transient and return to a steady state after pressure increases during a deflagration event without creating an expected alarm.

Abbreviations:

°C.....degrees Centigrade	°F.....degrees Fahrenheit
FPI.....feed prohibited interlock	ION.....Ionex Filter
cf/m.....cubic feet per minute	MAX.....maximum
mg/m ³milligrams per cubic meter	MH.....Monitoring House
MIN.....minimum	OTS.....Off-Gas Treatment System
ppm.....parts per million	psi.....pounds per square inch
SDC.....Static Detonation Chamber	

[401 KAR 34:020 Section 6, 401 KAR 34:050 Section 4, 401 KAR 34:250]

E.III.XA.(3)(d) Performance Standards

- The treatment of any mustard (H) agent shall achieve at least 99.9999% DRE.
- The Static Detonation Chamber (SDC), buffer tank, the thermal oxidizer, OTS, and carbon filters together shall provide at least 99.9999% DRE.
- Agent emissions shall not exceed the limits specified in E.III.F.(3), Environmental Release.
- Emissions of the Constituents of Potential Concern identified in Table 2-3 of the MPHHA report shall be less than emission rates shown in Table 2-4 of the MPHHA report.
- During operations, the emissions limits shall be met by limiting the overall feed rate into the SDC according to Condition E.III.XA.(3)(b) and by meeting Condition E.III.XA.(3)(c).
- During testing and waste treatment, the operation of the EDT Facility shall continuously ensure protection of human health and the environment.

[KRS 224.50-130, 401 KAR 34:250, 401 KAR 34:350]

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E.III.XA.(4) Systemization

Prior to treating hazardous waste in the EDT unit, the Permittee shall install and test all process monitoring and control instrumentation to ensure the system meets the requirements of applicable regulations. The Feed Prohibitive Interlocks (FPIs) to be tested as part of systemization are specified in Condition E.III.XA.(3)(c).

[KRS 224.50-130(3), 401 KAR 34:250 Sections 2 and 3]

E.III.XA.(5) Test Plan

- The Permittee shall provide a test plan for the commissioning shot, the treatment of test equipment, conventional munitions, surrogates, and for the agent operations ramp-up period, in accordance with the Compliance Schedule, Appendix A.
- Each test plan shall provide details of tests conducted using test equipment, conventional munitions, surrogates, and the ramp-up period.
- The Permittee shall comply with the approved test plan for each testing period.

[KRS 224.50-130(3), 401 KAR 34:240 Section 5, 401 KAR 34:250 Sections 2 and 3]

E.III.XA.(6) Agent Operations Ramp-up Period

- The entire ramp-up period shall not exceed either 720 hours operating time for treatment of hazardous waste or treatment of 4,400 projectiles.
- The Permittee shall calculate the operating/processing hours using system process data. A timer shall start when a round is fed to the EDT System and stop once the destruction event is completed and the system has stabilized.

[KRS 224.50-130(3), 401 KAR 34:240 Section 5, 401 KAR 34:250 Sections 2 and 3]

E.III.XA.(7) Demonstration Test Plan

- The Permittee shall conduct a demonstration test (DT) using mustard (H) agent projectiles and shall develop a demonstration test plan (DTP) prior to conducting the test.
- The DTP shall be submitted in accordance with the Compliance Schedule, Appendix A.
- The Permittee shall not start agent treatment or processing before the Division has approved the DTP for the EDT Facility.
- The DTP shall confirm that all performance standards of E.III.XA.(3)(d) and operating conditions of E.III.XA.(3)(c) are met using the proposed FPIs, treatment quantities, and waste feed rates of E.III.XA.(3)(b).
- The DTP shall test each FPI, except agent emission FPIs (MH-FPI-13 and ION-FPI-14), at the condition specified in E.III.XA.(3)(c) or at a more limiting condition. If a condition is tested and validated at a less limiting value than those in E.III.XA.(3)(c), the FPI value shall be revised.
- The Permittee shall measure stack emissions for all Constituents of Potential Concern (COPCs) identified in the Multi-Pathway Human Health Risk Assessment (MPHRA) Table 2-3 (included in Attachment M), except mercuric chloride, and also shall measure mercury, chlorine, and hydrogen chloride. All measurements shall be included in the DT reports.

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- The Permittee shall measure and establish emission limits from the SDC for the following:
 - Volatile, semi-volatile, and total organics
 - Carbon monoxide
 - Dioxin/furans
 - Particulate material
- During testing, the Permittee shall operate and monitor emissions from the EDT Facility as specified in the approved DTP.

[KRS 224.50-130(3), 401 KAR 34:250 Sections 2 and 3, 401 KAR 38:070 Section 7]

E.III.XA.(8) Demonstration Test Data Submittal

- A Preliminary Demonstration Test Report that contains results of the DRE and emission tests shall be submitted to the Division in accordance with the Compliance Schedule, Appendix A.
- A Final Demonstration Test Report that contains results of the DRE and emission tests shall be submitted to the Division in accordance with the Compliance Schedule, Appendix A.
- Test Reports shall contain a summary of all data collected during the Demonstration Test.
- All submissions shall be certified in accordance with 401 KAR 38:070 Section 7.
- If preliminary results and/or calculations show that performance standards for emissions and agent DRE testing are not being met during the Demonstration Test, the Permittee shall immediately stop waste feed to the SDC.
- Should the demonstration test result in COPC emission concentrations greater than the Estimated Emissions Rates in the MPHHA Table 2.4, the Permittee shall either:
 - Revise the feed rate to limit the emissions and/or revise the FPIs and conduct a revised Demonstration Test; or
 - Revise the MPHHA and demonstrate that the higher emission values resulting from the demonstration test do not pose an unacceptable risk level to potential receptors.
- Permittee shall submit Preliminary and Final Test Reports for all Revised Demonstration Tests in accordance with the Compliance Schedule, Appendix A.
- Should testing demonstrate a more restrictive FPI condition is necessary to meet performance standards, the Permittee shall submit a permit modification to revise the FPI Process Control Parameter.
- Should testing demonstrate a more restrictive waste feed rate is necessary to meet performance standards, the Permittee shall submit a permit modification to revise the feed rates.

[KRS 224.50-130(3)(a), 401 KAR 34:250 Sections 2 and 3, 401 KAR 38:070 Section 7]

E.III.XA.(9) Inspections

- Inspections of the EDT Facility shall be conducted in accordance with Procedures to Prevent Hazards, Attachment F, and Inspection Schedule, Attachment P.
- A thorough visual inspection of the SDC and associated equipment (for example: pumps, valves, conveyors, pipes) shall be conducted to ensure hazards associated with processing do not develop.
- Frequency of inspections and performance of SDC and OTS inspections shall be in accordance with the inspection frequency and typical inspection log sheets in Attachment F.
- The FPIs shall be tested in accordance with the inspection plan contained in Attachment F to verify operability.

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- Equipment or structure deterioration or malfunction identified during inspection shall be promptly remedied to ensure the non-compliance does not cause an environmental or human health hazard.

[401 KAR 34:020 Section 6, 401 KAR 34:250 Section 3]

E.III.XA.(10) Maintenance

- The Permittee shall maintain the SDC and OTS throughout demonstration testing and operations in accordance with applicable regulations and the application.
- The off-gas treatment system (OTS) and carbon filtration system shall be maintained and operated in accordance with applicable regulations and maintain compliance with all Performance Standards of Condition E.III.XA.(3)(d). This equipment shall be properly operated and maintained in accordance with the EDT Permit Application.

[401 KAR 38:030 Section 1, 401 KAR 34:250, 401 KAR 34:350]

E.III.XB. MISCELLANEOUS UNIT "B": MOVEMENT AS TREATMENT

E.III.XB.(1) Definition

The Commonwealth of Kentucky has promulgated a revised environmental statute, which states the following: "In addition to the definition of the term as defined in this chapter, the term "treatment", as used in this section, shall include the manual or mechanical handling of the chemical compounds listed in subsection (2) of this section and of any munitions containing the compounds during the processing of munitions to remove the compounds, to separate munitions components, and to otherwise prepare the components and compounds for destruction, neutralization, dismantling, or decommissioning. The term "treatment" shall not include the handling, movement, or over-packing of containers or munitions containing a compound listed in subsection (2) of this section within the fenced boundaries of an area used for the storage of those munitions if:

A plan for the handling, movement, or overpacking is submitted and approved by the cabinet, after public notice and opportunity to be heard, before the handling, movement, or over-packing occurs;
or

An emergency has occurred and the handling, movement, or overpacking is necessary to protect human health, safety, or the environment, if a report describing the handling, movement, or overpacking is submitted to the cabinet as soon as possible after the emergency is abated."

Based upon the revised Kentucky statute, transportation of mustard (H) agent-filled items (i.e., projectiles, over-packs and DOT 3A bottles) is regulated as treatment under existing Commonwealth of Kentucky environmental regulations [KRS 224.50-130(5)] and shall comply with applicable Kentucky and Federal hazardous waste treatment regulations.

[KRS Chapter 224.50-130(5)]

E.III.XB.(2) Movement Requirements

- Movement of H-filled projectiles and DOT bottles from the chemical HWSU igloos into EONCs in the chemical storage area is addressed under Condition C.III.X.(2) in the Chemical Storage Section of this Permit.

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- Movement of H-filled projectiles and DOT bottles in enhanced onsite containers (EONCs) from the chemical HWSU aprons in the chemical storage area to the ESM, directly into the EEB for destruction, or to Mustard Agent (H) Sampling Operations Facility, shall be conducted in accordance with the EDT Permit Application. During Mustard Agent (H) Sampling Operations of the stockpiled projectiles and DOT bottles, the projectiles and DOT bottles shall also be transported from the ESM to the Mustard Agent (H) Sampling Operations Facility. Following completion of the sampling, these sampled projectiles and DOT bottles shall be transported back to the EDT facility for destruction or storage.
- Each EONC shall contain a maximum of 72 palletized M110 155mm H-filled projectiles and shall be transported only during daylight hours.
- The waste shall be transported to the ESM for storage or directly into the EEB by EDT personnel for destruction. A truck pulling a trailer-mounted EONC shall transport the projectiles, over-packed projectiles, and DOT bottles from the chemical HWSU to the EDT Facility.
- The EONCs shall be unloaded at the ESM by forklift and the pallets/skids of projectiles, crated over-packed projectiles, and DOT bottles shall be placed into storage in the ESM or transported directly to the EEB for destruction as described in Process Information, Attachment D.
- A forklift shall transfer projectiles, over-packed projectiles, and DOT bottles from the ESM to the EEB. The forklift shall transport these items through the vestibule and into the staging, preparation, and loading areas within the EEB. The mustard (H) agent containers shall be placed in secondary containment.
- The projectiles, over-packed projectiles, and DOT bottles shall be placed into the feed boxes on the loading conveyor.
- Mustard (H) agent-filled items can be staged for loading on the conveyor in the EEB while awaiting treatment in the SDC.

[KRS 224.50-130(5)]

E.III.XB.(2)(a) Use of Enhanced Onsite Containers (EONCs)

EONCs shall be operated and maintained to meet requirements for secondary containment in accordance with applicable regulations.

[KRS 224.50-130(5), 401 KAR 34:180]

E.III.XB.(2)(b) Monitoring of the EONCs

Air monitoring of the projectiles and DOT bottles within an EONC shall be conducted prior to opening the EONC at the EDT Facility and prior to opening an EONC at the Mustard Agent (H) Sampling Operations Facility. Monitoring is to determine if any of the projectiles or other mustard (H) agent-filled containers leaked during transportation. If air monitoring detects mustard (H) agent within the EONC, the EONC shall not be opened until it is within engineering controls.

[KRS 224.50-130(5), 401 KAR 34:250 Sections 2 and 3]

E.III.Y.

(RESERVED)

E.III.Z.

(RESERVED)

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1 E.III.AA. AIR EMISSION STANDARDS FOR PROCESS VENTS

2
3 See Condition II.A. in the EPA Hazardous and Solid Waste Amendments (HSWA) Permit, Attachment N.

4
5 E.III.BB. AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

6
7 E.III.BB.(1) APPLICABILITY

8
9 401 KAR 34:280 applies to all equipment that contains or contacts hazardous wastes with organic
10 concentrations of at least 10 percent by weight.

11
12 Blister agent H (mustard) is present in the projectiles at concentrations greater than 10 percent, thus
13 triggering the applicability of 401 KAR 34:280. It has a vapor pressure of 0.0096 kilo Pascals (kPa) at
14 20°C and is therefore considered a heavy liquid. Upon heating the projectiles and DOT bottles to the
15 final operating temperature, the heavy mustard liquid will no longer be present, and the SDC system will
16 contain only gases.

17
18 Specifically, 401 KAR 34:280 applies to all Permittee equipment identified in Appendix B of this Permit.
19 All subject equipment is uniquely marked for the specific purposes of tracking, monitoring, inspecting,
20 and repairing each piece of equipment in accordance with an approved Leak Detection & Repair
21 (LDAR) Program and 401 KAR 34:280. All subject equipment shall comply with Condition E.III.BB of
22 this Permit and 401 KAR 34:280.

23
24 Appendix B provides a list of subject equipment based on system configurations at the time of this
25 Permit's issuance. The Permittee shall maintain the most current equipment identification list in the
26 facility operating record accompanied by a written copy of the approved LDAR Program. The current
27 equipment list and LDAR Program shall be available at all times to regulators at the facility.

28
29 The equipment identified in Appendix B will be unsafe to monitor while the system is in operation due to
30 the hazards associated with entry where the equipment is located. This equipment is exempt from
31 monitoring in accordance with 401 KAR 34:280 Sections 8 and 9. However, monitoring is required as
32 frequently as practicable during safe-to-monitor times.

33
34 *[401 KAR 34:280 Section 2]*

35
36 E.III.BB.(2) STANDARDS: VALVES IN GAS/VAPOR OR LIGHT LIQUID SERVICE

37
38 The equipment identified in Appendix B will be unsafe to monitor while the system is in operation due to
39 the hazards associated with entry into contaminated areas in which these will be located. This
40 equipment is exempt from monitoring in accordance with 401 KAR 34:280 Section 8; however,
41 monitoring is required as frequently as practicable during safe-to-monitor times.

42
43 Repairs to equipment listed in Appendix B shall comply with the requirements of 401 KAR 34:280
44 Section 8, as applicable.

45
46 *[401 KAR 34:280 Section 8]*

47

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1 E.III.BB.(3) STANDARDS: PUMPS AND VALVES IN HEAVY LIQUID SERVICE

2
3 The equipment identified in Appendix B will be unsafe to monitor while the system is in operation due to
4 the hazards associated with entry into contaminated areas in which these will be located. This
5 equipment is exempt from monitoring in accordance with 401 KAR 34:280 Section 9; however,
6 monitoring is required as frequently as practicable during safe-to-monitor times.

7
8 Repairs to equipment listed in Appendix B shall comply with the requirements of 401 KAR 34:280
9 Section 9, as applicable.

10
11 *[401 KAR 34:280 Section 9]*

12 E.III.BB.(4) STANDARDS: DELAY OF REPAIR

13
14 The Permittee shall document in the operating record any delay of repair of equipment that meets the
15 requirements of 401 KAR 34:280 Section 10.

16
17 *[401 KAR 34:280 Section 10]*

18 E.III.BB.(5) TEST METHOD AND PROCEDURES

19
20 The Permittee shall comply with the test methods and procedures identified in 401 KAR 34:280 Section
21 14 and in the approved Permit application. All records of testing shall be kept in the facility operating
22 record at the facility, for a period of not less than three (3) years.

23
24 *[401 KAR 34:280 Section 14]*

25 E.III.BB.(6) RECORDKEEPING REQUIREMENTS

26
27 Records shall be the primary demonstration of compliance with equipment requirements of Condition
28 E.III.BB of this Permit and 401 KAR 34:280. The Permittee shall maintain all records necessary to
29 demonstrate compliance and shall be accessible at the facility, for a period of not less than three (3)
30 years.

31
32 If the Permittee elects to comply with the recordkeeping requirements pursuant to 40 CFR §
33 264.1064(m) as established in 401 KAR 34:280 Section 15, a thirty day advance notice must be
34 submitted to the Director outlining specific equipment that will utilize the recordkeeping option.

35
36 *[401 KAR 34:280 Section 15]*

37 E.III.BB.(7) REPORTING REQUIREMENTS

38
39 The Permittee shall prepare and submit a report semiannually to the Division documenting for that
40 semiannual reporting period:

- 41
42
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44
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48
- equipment for which delays in repair exceed the required response and repair times
 - emission control devices exceeding or operating outside of device design specifications for a duration of greater than 24 hours prior to correction
 - dates of hazardous waste management unit shutdowns

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All information required in 401 KAR 34:280 Section 16 shall be submitted in the semiannual report. The semiannual report shall be submitted by January 31 and July 31 of each year the facility is in operation. A copy of the semiannual report shall be maintained in the facility operating record.

[401 KAR 34:280 Section 16]

E.III.BB.(4) EQUIPMENT ADDITIONS OR MODIFICATIONS

Prior to installing any new equipment subject to 401 KAR 34:280, or prior to significantly modifying existing equipment layout for other than periodic, equivalent equipment replacement, the Permittee shall apply for a Permit modification under 401 KAR 38:040 Section 3, and provide revised Part B application information required under 401 KAR 38:090, 38:150, 38:160, and 38:250, as applicable, with the modification request.

[401 KAR 34:280, 401 KAR 38:090, 401 KAR 38:150, 401 KAR 38:160, and 401 KAR 38:250]

E.III.BB.(5) EQUIPMENT MAINTENANCE AND INSTALLATION OF TEMPORARY EQUIPMENT

Temporary equipment installed during maintenance activities shall be noted in the daily facility's operating record. The notation shall include the equipment identification numbers replaced during the maintenance activity, the date the maintenance started, the date the maintenance is expected to be completed, and a brief statement as to what the activity is that includes installation of temporary equipment.

All temporary equipment shall be selected and installed to ensure engineering performance equivalent to the equipment it is replacing to prevent system performance upsets, releases of hazardous waste, fire or explosion.

[401 KAR 38:280]

E.III.CC. AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS AND CONTAINERS

See Condition II.C. in the EPA Hazardous and Solid Waste Amendments (HSWA) Permit, Attachment N.

E.III.DD. CONTAINMENT BUILDINGS

(RESERVED)

E.III.EE. HAZARDOUS WASTE MUNITIONS AND EXPLOSIVES STORAGE

(RESERVED)

PART IV

CORRECTIVE ACTION FOR SWMUS AND AOCs

See Entire Facility Section

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**PART V
REFERENCED ATTACHMENTS**

E.V.A. REFERENCED ATTACHMENTS

E.V.A.(1) Attachment A, Part A (EDT)

Part A of the Permit Application is incorporated as Attachment A of this permit.

[KRS 224.46-530]

E.V.A.(2) Attachment B, Facility Description, (EDT)

Part B of the Permit Application, Facility Description, is incorporated as Attachment B of this permit.

[KRS 224.46-530]

E.V.A.(3) Attachment C, Waste Analysis Plan, (EDT)

Part C of the Permit Application, Waste Analysis Plan, is incorporated as Attachment C of this permit.

[KRS 224.46-530]

E.V.A.(4) Attachment D, Process Information, (EDT)

Part D of the Permit Application, Process Information, is incorporated as Attachment D of this permit.

[KRS 224.46-530]

E.V.A.(5) Referenced Attachments

RESERVED

E.V.A.(6) Attachment F, Procedures to Prevent Hazards, (EDT)

Part F of the Permit Application, Procedure to Prevent Hazards, is incorporated as Attachment F of this permit.

[KRS 224.46-530]

E.V.A.(7) Attachment G, Contingency Plan, (EDT)

Part G of the Permit Application, Facility Contingency Plan, is incorporated as Attachment G of this permit.

[KRS 224.46-530]

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1 E.V.A.(8) Attachment H, Personnel Training, (EDT)

2
3 Part H of the Permit Application, Facility Personnel Training, is incorporated as Attachment H of this
4 permit.

5
6 *[KRS 224.46-530]*

7
8 E.V.A.(9) Attachment I, Closure Plan, (EDT)

9
10 Part I of the Permit Application, Facility Closure Plan, is incorporated as Attachment I of this permit.

11
12 *[KRS 224.46-530]*

13
14 E.V.A.(10) Attachment J, Other Federal Laws, (EDT)

15
16 Part J of the Permit Application, Other Federal Laws, is incorporated as Attachment J of this permit.

17
18 *[KRS 224.46-530]*

19
20 E.V.A.(11) Attachment K, Waste Minimization, (EDT)

21
22 Part K of the Permit Application, Facility Waste Minimization Program, is incorporated as Attachment K
23 of this permit.

24
25 *[KRS 224.46-530]*

26
27 E.V.A.(12) Attachment L, Signatures, (EDT)

28
29 Part L of the Permit Application, Permittee Signatures, is incorporated as Attachment L of this permit.

30
31 *[KRS 224.46-530]*

32
33 E.V.A.(13) Attachment M, Multi-Pathway Human Health Risk Assessment (MPHHRA) Report for Selected
34 Explosive Destruction Technology Static Detonation Chamber at Blue Grass Chemical Agent –
35 Destruction Pilot Plant, July 2015, Revised December 2015

36
37 The MPHHRA is incorporated as Attachment M of this permit.

38
39 *[KRS 224.46-530]*

40
41 E.V.A.(14) Attachment N, EPA HSWA Permit

42
43 US EPA RCRA Permit Pursuant to the Hazardous and Solid Waste Amendments

44
45 *[KRS 224.46-530]*

46

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E.V.A.(15) Attachment O, EDT Facility Monitoring Locations and Agent Categories

Station Name	MINICAMS Tag	DAAMS Tag	DAAMS Mode	Area Monitored	NRT Level	NRT Alarm Level	NRL Alert Level I	Sample Point HAZ CAT	Primary Purpose - MINICAMS	Primary Purpose - DAAMS
EDT 301	70-AMS-AIT5001	70-AMS-AI5209	CONF	EDT Service Magazine 301	VSL	0.70	TBD	D	NRT monitoring of ESM interior during "First Entry" monitoring and movement of munitions into and out of the ESM while ESM doors are open.	Confirmation DAAMS to verify or refute an alarm condition detected by MINICAMS AIT5001
EDT 302	70-AMS-AIT5002	70-AMS-AI5210	CONF	IONEX CD 1000 Filter Unit Midbed	VSL	0.70	TBD	C	NRT monitoring at carbon filter bank mid-bed. Provides early warning for agent breakthrough of first carbon filter bank.	Confirmation DAAMS to verify or refute an alarm condition detected by MINICAMS AIT5002
EDT 303	70-AMS-AIT5003	70-AMS-AI5211	CONF	IONEX 1000 CD filter unit Outlet	VSL	0.70	TBD	D	NRT air monitoring at ESM IONEX CD 1000 Filter Stack hood outlet; detects agent release to the environment.	Confirmation DAAMS to verify or refute an alarm condition detected by MINICAMS AIT5003
EDT 307	70-AMS-AIT5006	70-AMS-AI5204	CONF	EEB - EDT Airlock Vestibule 100	VSL	0.70	TBD	C	NRT spooled monitoring line within the EEB Vestibule. Used to support worker safety during agent entries and egress from the EEB. Also used to support decontamination operations for a "leaker" EONC after it has been unloaded within the EEB.	Confirmation DAAMS to verify or refute an alarm condition detected by MINICAMS AIT5006
EDT 308	70-AMS-AIT5007	70-AMS-AI5205	CONF/W PL	EEB - Munitions Loading Area SDC Room 104	VSL	0.70	TBD	C	NRT monitoring of SDC munitions unloading area during munitions staging, handling, loading and processing.	Confirmation DAAMS to verify or refute an alarm condition detected by MINICAMS AIT5007
EDT 309	70-AMS-AIT5008	N/A	N/A	EEB - Buffer Tank Enclosure SDC Room 104	VSL	0.70	TBD	B	NRT monitoring within the Buffer Tank (BT) secondary containment enclosure during normal EDT operations. Used to support safe access	N/A

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									to the BT during BT residue drum change out.	
EDT 310	70-AMS-AIT5009	N/A	N/A	EEB - Detonation Chamber Enclosure SDC Room 104	VSL	0.70	TBD	B	NRT monitoring within the Detonation Chamber's (DC) secondary containment enclosure during normal EDT operations. Used to support safe access to the DC Enclosure to perform operational or maintenance activities.	N/A
EDT 311	70-AMS-AIT5010	70-AMS-AI5208	CONF/W PL	EEB - Scrap Exit Area SDC Room 104	VSL	0.70	TBD	C	NRT monitoring of the SDC munitions scrap inspection conveyor area during scrap processing, munitions deformation inspections and scrap removal and replacement operations.	Confirmation DAAMS to verify or refute an alarm condition detected by MINICAMS AIT5010
EDT 312	70-AMS-AIT5011	70-AMS-AI5206	CONF	IONEX 16000 HVAC Filter Midbed	VSL	0.70	TBD	D	NRT monitoring after the first carbon filter bank and prior to the second carbon filter bank of the IONEX CD 16000 Filter Unit. Provides early warning that agent breakthrough of first bank may have occurred.	Confirmation DAAMS to verify or refute an alarm condition detected by MINICAMS AIT5011
EDT 313	70-AMS-AIT5012	70-AMS-AI5207	CONF	HVAC IONEX 16000 Filter Outlet (Stack)	VSL	0.70	TBD	D	NRT monitoring at the IONEX CD 16000 Filter Stack hood outlet; detects agent release to the environment	Confirmation DAAMS at the IONEX CD 16000 Filter Stack hood outlet to verify or refute an alarm condition detected by MINICAMS AIT5012
EDT 314	N/A	70-AMS-AI5203	HISM	IONEX 4000 OTS Exhaust Carbon Midbed	WPL	N/A	N/A	D	N/A	Confirmation DAAMS after the first carbon filter bank and prior to the second carbon filter bank of the ESM's IONEX CD 4000 Filter Unit to verify or refute an agent break through at carbon bank 1. NOTE: There is no MINICAMS at this location. There are two MINICAMS located downstream at the MH Stack.
EDT 315A	70-AMS-AIT5014A	70-AMS-AI5201	CONF	OTS Exhaust Stack (IONEX 4000 filter)	SEL	0.70	≤0.4	D	NRT monitoring at the MH Stack for detecting	One of two confirmation DAAMS in the MH Stack to verify or refute

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				EDT Mon house 201					agent release to the environment. This MINICAMS works in a staggered sampling cycle with MINICAMS AIT5014B (or AIT5004--- if it is on line in lieu of AIT5014B)	an alarm condition detected by MINICAMS AIT5014A
EDT 315B	70-AMS-AIT5014B	70-AMS-AI5202	CONF	OTS Exhaust Stack (IONEX 4000 filter) EDT Mon house 201	SEL	0.70	≤0.4	D	NRT monitoring at the MH Stack for detecting agent release to the environment. This MINICAMS works in a staggered sampling cycle with MINICAMS AIT5014A (or AIT5004--- if it is on line in lieu of AIT5014A)	One of two confirmation DAAMS in the MH Stack to verify or refute an alarm condition detected by MINICAMS AIT5014B
EDT 316	70-AMS-AIT5020	N/A	N/A	EDT Service Magazine/Spare 301	VSL	0.70	TBD	D	NRT spooled monitoring line within ESM to support "leaker" detection, isolation, and identification. Supports worker safety during over-pack operations within the ESM. Serves as back-up spare for MINICAMS AIT5001.	N/A
EDT 317	70-AMS-AIT5021	N/A	N/A	EONC Point Source	VSL	0.70	TBD	D	NRT spooled monitoring line outside of the ESM to support air monitoring of EONCs prior to opening EONC door to remove munitions that have been transported from BGCA storage Igloo. Also used to support safe egress during "leaker" detection, isolation, identification and/or over-pack operations within the ESM.	N/A
EDTPO 1	70-AMS-AIT5016	N/A	N/A	Portable MINICAMS Cart	VSL	0.70	TBD	D	NRT inactive spare/ MININCAMS on mobile cart	
EDTPO 2	70-AMS-AIT5015	N/A	N/A	Portable MINICAMS Cart	VSL	0.70	TBD	D	NRT inactive spare/ MININCAMS on mobile	

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									cart	
PER00 1	N/A	00-AMS- AI5201	HISM	Perimeter Site 1	GPL	N/A	TBD	D	N/A	Perimeter monitoring
PER00 2	N/A	00-AMS- AI5202	HISM	Perimeter Site 2	GPL	N/A	TBD	D	N/A	Perimeter monitoring
PER00 3	N/A	00-AMS- AI5203	HISM	Perimeter Site 3	GPL	N/A	TBD	D	N/A	Perimeter monitoring
PER00 4	N/A	00-AMS- AI5204	HISM	Perimeter Site 4	GPL	N/A	TBD	D	N/A	Perimeter monitoring
PER00 5	N/A	00-AMS- AI5205	HISM	Perimeter Site 5	GPL	N/A	TBD	D	N/A	Perimeter monitoring
PER00 6	N/A	00-AMS- AI5206	HISM	Perimeter Site 6	GPL	N/A	TBD	D	N/A	Perimeter monitoring
PER00 7	N/A	00-AMS- AI5207	HISM	Perimeter Site 7	GPL	N/A	TBD	D	N/A	Perimeter monitoring
PER00 8	N/A	00-AMS- AI5208	HISM	Perimeter Site 8	GPL	N/A	TBD	D	N/A	Perimeter monitoring

- 1
2 Note:
- 3 1. When there is no agent hazard present, MINICAMs will be off-line and not collecting data.
 - 4 2. The information in this table will change regularly as stations, sample lines, and other associated equipment is installed and tested. Alarm & action levels, and criteria are target levels
 - 5 and subject to change following monitoring baseline studies after the monitoring equipment is installed.
- 6 CONF – confirmation monitoring
7 GPL – general population limit
8 HISM – historical monitoring
9 SEL – source emission limit
10 VSL – vapor screening level
11 WPL – worker population limit

12
13 [KRS 224.46-530]

14
15
16
17 **E.V.A.(16) Attachment P, Figure F-1 Inspection Schedule for EDT Facility**

ITEM	FREQUENCY ^a	CRITERIA
ESM	D	Monitor For Apparent Leakage From The Munitions
ESM	W	Inspect The Floor For Areas That Indicate Excessive Wear Or Deterioration Of Protective Coating (Where Applicable)
EEB	M	Exits Are Clearly Identified And Marked

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ITEM	FREQUENCY ^a	CRITERIA
DC and Equipment		
Munitions Lift	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Lift Area For Apparent Leaks From Equipment
Pushers	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Loading Gates	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Loading Chambers	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Tilting Unit	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Upper Chamber	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Lower Chamber	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Elevating System	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Turning System	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Locking Ring	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Area For Apparent Leaks From Equipment
Conveyors	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Areas For Apparent Drips, Spills, Or Leaks
FPIs	W	Test Control Circuits And Document FPIs
DC	A	Take Unit Offline. Perform A Detailed Inspection/Maintenance Operation
OTS Equipment		
Stack Monitors	D	Check Calibration
Induced Draft (ID) Fans	D	Visually Inspect For Loss Of Lubrication, Check For Excessive Vibration, And Loss Of Performance By Use Of Operator Console Data For Operating Parameters

DRAFT HAZARDOUS WASTE FACILITY PERMIT

Explosive Destruction Technology Section (EDT)

Blue Grass Army Depot, KY8-213-820-105

AI: 2805 Activity: APE20140009

ITEM	FREQUENCY^a	CRITERIA
Bag House	W	Visually Inspect For Evidence Of Corrosion, Malfunctions, Leaks, Or Excessive Wear
Buffer Tank	W	Visually Inspect For Evidence Of Corrosion, Malfunctions, Leaks, Or Excessive Wear
Exhaust Filter	W	Visually Inspect For Evidence Of Corrosion, Malfunctions, Leaks, Or Excessive Wear
Quench Unit	M	Visually Inspect Shell For Corrosion
Scrubbers	M	Visually Inspect Shell For Corrosion
Spray Dryer	M	Visually Inspect Shell For Corrosion
Scrap Handling System		
Dust Collection and Container	D	Visually Inspect For Leakage And Container Out Of Place
Scrap Funnel	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Areas For Apparent Leakage
Scrap Conveyors	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Areas For Apparent Leakage
Turning Devices	W	Observe Equipment In Operation To Determine Any Loss Of Performance. Inspect Areas For Apparent Leakage
Fire Protection System		
Extinguishers (Manual)	M	Check For Condition And Gauge Pressure. Check Expiration Dates
Communication with BGAD Fire Department	Q	Assure The System Functions And A Signal Is Received By BGAD Fire Department
Sprinkler System	S	Inspect In Accordance With Fire Codes And Regulations
Building Ventilation		
Pressure Gauges	D	Check That Gauge Is Reading In Appropriate Range
General Ventilation System	M	Visually Inspect For Evidence Of Corrosion, Malfunctions, Leaks, Or Excessive Wear
Internal Mechanical	When filters are changed	Visually Inspect For Evidence Of Corrosion, And Excessive Wear

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Explosive Destruction Technology Section (EDT)

Blue Grass Army Depot, KY8-213-820-105

AI: 2805 Activity: APE20140009

ITEM	FREQUENCY ^a	CRITERIA
EEB		
General Housekeeping	M	Inspect For Proper Storage Of Materials, Good Housekeeping, And Condition Of Doors, Vents, And General Maintenance
Lightning Protection	S	Visual Inspect The Condition Of Lightning Protection System
Lightning Protection	S	Check Components Of The Lightning Protection System For Electrical Continuity
Air Monitoring Instruments		
MINICAMS®	D	Visually Inspect Monitors For Physical Integrity
MINICAMS®	D	Perform Agent Challenge Test And Calibration
Monitor Status	D	Verify MINICAMS® Not In Malfunction
Continuous Emission Monitoring (CEMS)	D	Verify Calibration
DAAMS (Perimeter Monitoring/Stack Monitoring)		
Tubes	D	Visually Inspect If Present
Sample Line	D	Visually Check If Connected To Sampling Port; Inspect If Heat Trace Is Functional
Uninterruptible Power Supply		
Invertor Input Voltage	M	Check Meter For Proper Voltage
Invertor Input Current	M	Check Meter For Proper Current
Battery Current	M	Check Meter For Proper Reading
Alternating Current Voltage	M	Check Meter For Proper Voltage
Frequency	M	Check Meter For Proper Frequency
Uninterruptable Power Supply Output Current	M	Check Meter For Proper Current
Primary Input Voltage	M	Check Meter For Proper Voltage
Emergency Generator		
Engine / Generator	S	Visually Inspect For Loose Drive Belts, Oil Leaks, Coolant Leaks, Lube Oil Level, and Mechanical Condition

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Explosive Destruction Technology Section (EDT)

Blue Grass Army Depot, KY8-213-820-105

AI: 2805 Activity: APE20140009

ITEM	FREQUENCY ^a	CRITERIA
Permitted Storage Area		
ESM	W	Visually Inspect For Proper Storage Of Materials, Proper Labeling, And Aisle Space. Visually Inspect Secondary Containment For Leaks And Deterioration Caused By Corrosion Or Other Factors
ESM	M	Inspect For Good Housekeeping, Condition Of Magazine Doors, Vents, And General Maintenance
ESM	Q	Function Testing Of The Intrusion Detection System (Ids) Sensors And Door Lighting
ESM	S	Visual Inspect The Condition Of Lightning Protection System
ESM	S	Check Components Of The Lightning Protection System For Electrical Continuity

NOTES:

- ^a D-Daily (once every calendar day)
- W-Weekly (once every calendar week)
- M-Monthly (once every calendar month)
- Q-Quarterly (once every three (3) calendar months)
- S-Semiannually (once every six (6) calendar months)
- A-Annually (once every 12 months)

**PART VI
WASTE MINIMIZATION**

See Entire Facility Section

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Explosive Destruction Technology Section (EDT)

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Appendix A – Compliance Schedule for EDT Permit

1. Submit to the Division notice of government approval of Mustard (H) Agent Analytical Methods at least 45 days prior to receipt of hazardous waste
2. Submit to the Division notice of successful completion of Operational Readiness Review prior to receipt of hazardous waste
3. Submit to the Division documentation of KY Emergency Management Approval:
 - a. A certification that the Emergency Response Plan is approved for EDT Operations
 - b. Prior to receipt of hazardous waste
4. Submit to the Division documentation of Host County Certification:
 - a. Certifying compliance with KRS 224.50-130(8)(a) and (b)
 - b. Prior to receipt of hazardous waste
5. Submit to the Division a Facility Construction Certification:
 - a. A letter signed by the Permittee and a licensed professional engineer stating that the facility has been constructed or modified in compliance with the Permit and applicable regulations
 - b. At least 15 days prior to receipt of hazardous waste
6. Submit to the Division a Secondary Waste Certification:
 - a. The name and location of each permitted facility that has an executed contract with the Permittee for treatment and disposal of secondary wastes
 - b. At least 30 days prior to receipt of hazardous waste
 - c. If additional permitted facilities are contracted to receive secondary hazardous waste after the EDT Facility begins processing hazardous waste, provide the name and location of the facility at least 30 days prior to shipping waste to said facility.
7. Submit to the Division Waste Control Limits:
 - a. In accordance with the LAMP
 - b. At least 180 days prior to receipt of hazardous waste
8. Submit to the Division Emergency Coordinator Titles and Phone Numbers:
 - a. At least 30 days prior to storage or treatment of hazardous waste
9. Submit to the Division Notification Call Down Instructions:
 - a. At least 30 days prior to storage or treatment of hazardous waste
10. Submit to the Division a revised Laboratory Analysis and Monitoring Plan and Perimeter Monitoring Plan:
 - a. At least 180 days prior to receipt of hazardous waste
 - b. Division approval required prior to receipt of hazardous waste
11. Submit to the Division Concept Test Plans for Conventional Munitions and Surrogate Testing:
 - a. The plans shall include: objectives, duration, data to be collected, a description of the items being treated, and an estimate of the number to be processed
 - b. At least 30 days prior to conducting tests
12. Submit to the Division a Test Plan for the Ramp-up Period:
 - a. The plan shall include: objectives, duration, data to be collected, a description of the items being treated, and an estimate of the number to be processed
 - b. At least 30 days prior to conducting tests
 - c. Division approval required prior to conducting test

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Explosive Destruction Technology Section (EDT)

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- 1 13. Submit to the Division a Demonstration Test Plan and Sampling and Analysis Plan/Quality Assurance Project
2 Plan (SAP/QAPP):
3 a. Test plan in accordance with 401 KAR 38:060 Section 3.
4 b. Munitions specific waste analysis data, from MIDAS or other sources, in accordance with 401 KAR 34:240
5 Section 2 and 401 KAR 38:060 Section 3.
6 c. Test plan for 99.9999% agent DRE and all performance standards
7 d. At least 180 days prior to receipt of hazardous waste
8 e. Division approval required prior to receipt of hazardous waste
9 14. Submit to the Division a Preliminary Demonstration Test Report:
10 a. Within 30 days following the completion of the test
11 b. Division approval required before increasing waste feed rates to 75% of the rate successfully demonstrated
12 15. Submit to the Division a Final Demonstration Test Report:
13 a. Within 60 days following the completion of the test
14 b. Division approval required before increasing waste feed rates to 100% of the feed rate successfully
15 demonstrated
16 16. Submit to the Division an Updated Closure Plan:
17 a. At least 180 days prior to initiation of closure
18 b. Division approval required prior to beginning closure activities
19 17. Submit to the Division a Request for Approval Prior to Start of Agent Destruction Operations:
20 a. At least 15 days prior to receipt of hazardous waste
21 b. Letter requesting approval shall document that Compliance Schedule Items 1 through 13 are completed
22 c. Division approval letter required prior to receipt of hazardous waste
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DRAFT HAZARDOUS WASTE FACILITY PERMIT

Explosive Destruction Technology Section (EDT)

Blue Grass Army Depot, KY8-213-820-105

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Appendix B – List of Equipment Subject to Hazardous Waste Organic Air Emissions Standards

**Summary of Equipment Subject to 401 KAR 34:280 Requirements
Explosive Destruction Technology (EDT) Facility
Blue Grass Chemical Agent-Destruction Pilot Plant
Blue Grass Army Depot, Richmond, KY
EPA I.D. No. KY8-213-820-105, AI 2805**

Equip-ment Tag	Equipment Description	Area	Near	Equipment Type	Organic Type / Concentration	Monitoring Exemption
140V03	1" flange, check valve	Secondary Containment	SDC	F, V	Heavy Liquid (>10%) and Gas	40 CFR 264.1057(g)*, 40 CFR 264.1058(e)**
114V01	1" flange, blind flange, check valve	Secondary Containment	SDC	F, V	Heavy Liquid (>10%) and Gas	40 CFR 264.1057(g)*, 40 CFR 264.1058(e)**
120V07	Gate valve	Secondary Containment	SDC	V	Heavy Liquid (>10%) and Gas	40 CFR 264.1057(g)*
114V03	Flange, gate valve	Secondary Containment	SDC	F, V	Heavy Liquid (>10%) and Gas	40 CFR 264.1057(g)*, 40 CFR 264.1058(e)**
Loading Gate 2	Slide Gate to Loading Chamber 2	Secondary Containment	SDC	Slide Gate	Heavy Liquid (>10%) and Gas	40 CFR 264.1057(g)*
TIA---11402	Temp indicator	Secondary Containment	SDC	F	Heavy Liquid (>10%) and Gas	40 CFR 264.1058(e)**
114V11	Flange, valve	Secondary Containment	SDC	F, V	Heavy Liquid (>10%) and Gas	40 CFR 264.1057(g)*, 40 CFR 264.1058(e)**
160	Buffer Tank	Secondary Containment	SDC	F, F, Expansion Joint, F	Gas	40 CFR 264.1058(e)**
UV 16005	Ball valve	Secondary Containment	SDC	V	Gas	40 CFR 264.1057(g)*
160V07	Gate valve	Secondary Containment	SDC	V	Gas	40 CFR 264.1057(g)*
UV 16007	Pressure Control Valve, flange	Secondary Containment	SDC	V, F	Gas	40 CFR 264.1057(g)*, 40 CFR 264.1058(e)**
162V01	Gate Valve	Secondary Containment	SDC	V	Gas	40 CFR 264.1057(g)*
162V02	Gate Valve	Secondary Containment	SDC	V	Gas	40 CFR 264.1057(g)*
N/A	Flanged Restriction Orifice	Secondary Containment	Buffer Tank	F	Gas	40 CFR 264.1058(e)**
TI 31015	Flange to TI	Secondary Containment	TO	F	Gas	40 CFR 264.1058(e)**
PI 31016	Flange, needle valve to PI	Secondary Containment	TO	F, V	Gas	40 CFR 264.1057(g)*, 40 CFR 264.1058(e)**

NOTES: F-Flange; V-Valve; SDC-Static Detonation Chamber; TO-Thermal Oxidizer

* 40 CFR §264.1057(g) as established in 401 KAR 34:280 Section 8

** 40 CFR §264.1058(e) as established in 401 KAR 34:280 Section 9