

MODULE III – TREATMENT OF WASTES

III.A. APPLICABILITY

- III.A.1. The requirements of this module apply to the treatment of recovered chemical warfare materiel (RCWM) at the Tooele Army Depot South (TEADS) in Tooele County, Utah. The Permittee shall comply with UAC R315-8 and all conditions of this module and Attachment 4 of this Permit.
- III.A.2. The conditions of this module allow treatment within Area 10 at the TEADS using one or two Explosive Destruction System (EDS) units at the same time. If two units are deployed, the conditions of this Permit apply to each unit individually.
- III.A.3. For the purpose of this Permit, treatment is defined as detonating the munition(s) in the vessel, filling the vessel with treatment reagent and holding the reagent in the vessel until the treatment level is reached. Records of detonation times and holding times of the reagent in the vessel shall be recorded in the operating record.
- III.A.4. Equipment shall not be shared between two EDS units if that sharing causes or potentially could cause an unsafe situation. The personal decontamination station may be a shared resource. Parts may be removed from one EDS for use on another EDS if the first unit is deemed non-operational. Operation of two EDS units shall only be conducted in separate environmental enclosures.
- III.A.5. Treatment shall only be accomplished by properly trained personnel in accordance with TEADS EDS's Standard Operating Procedures, the conditions of this Permit and its attachments. Treatment utilizing two EDS units on-site simultaneously shall require two separate crews, one for each unit.
- III.A.6. This Permit has been developed in accordance with the applicable requirements of UAC R315-1 through 101. All conditions in this Permit shall supersede conflicting statements, requirements, or procedures found in UAC R315-1 through 101 or attachments to this Permit.

III.B. IDENTIFICATION OF PERMITTED AND PROHIBITED WASTE

- III.B.1. The Permittee may only treat the hazardous wastes specified in this Permit. These wastes are munitions and items that contain chemical agent or industrial chemicals generated on the TEADS site.
- III.B.2. The Permittee is prohibited from storing hazardous waste in the EDS. SOP's shall be followed for the length of time the waste is in the EDS vessel. No other hazardous waste storage is authorized by this Permit.
- III.B.3. The Permittee shall not accept waste from off- site for treatment in the EDS.

III.B.4. Only hazardous waste as defined by UAC R315-2 must be treated in the EDS. Wastes that are treated in the EDS may only include wastes with the following EPA waste codes: D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, D021, D022, D028, D034, D039, D040, D043, and P999. Not all waste codes above need to be applied to every waste treated; however the waste treated must carry one or more of these waste codes.

III.B.5. The Permittee shall not treat hazardous waste not identified in this Module.

III.B.6. The addition of hazardous wastes and associated codes to this Module requires modification of the Permit as specified in UAC R315-4-1.5 and Condition I.D.

III.C. GENERAL OPERATING CONDITIONS

III.C.1. The Permittee shall comply with the following treatment limits for the EDS:

III.C.1.a. The Permittee shall not treat with more than 4.8 pounds total net explosive weight per detonation. (4.8 pounds equals donor charges and any energetics in the munition(s) to be treated in each operation.)

III.C.1.b. The Permittee shall not treat more items in the EDS at one time than allowed in the approved SOP's.

III.C.1.c. The SOPs listed in Table 1 are hereby incorporated by reference and shall be found in their entirety in Attachment 16 of the Permit. Modifications to SOPs shall be submitted as Class 1 modifications in accordance with the procedures in R315-3-4.2 and 4.3 of the Utah Hazardous Waste Management Rules. All modifications shall be submitted to the Director. If new SOPs are developed for use, they shall be submitted to the Director as a Permit modification.

III.C.1.d. All SOPs and IOPs listed in this Permit and any procedures in an annex, attachment, appendix, addendum or similar place where other procedures may be kept are all considered SOPs and IOPs and are enforceable conditions for the purpose of compliance with this Permit.

III.C.1.e. All waste handling and treatment shall be conducted in an environmental enclosure. The environmental enclosure shall be capable of providing complete secondary vapor containment.

III.C.1.f. The environmental enclosure shall be equipped with multiple doors for entrance and egress, connected to ventilation and carbon filtration systems and equipped with a floor to prevent precipitation run-on.

III.C.1.g. The size and type of the carbon filter unit used for any operation shall be adequately sized and capable of capturing and adsorbing 100% of any agent vapor or emission that could be released from leaking munitions, equipment or wastes.

- III.C.2. The Permittee shall maintain the integrity of the EDS to ensure it meets the performance standards of UAC R315-8-16 and minimizes the potential impacts to human health and the environment. The Permittee shall comply with applicable provisions of Attachments 2 and 11 and the following conditions:
- III.C.2.a. The Permittee shall conduct all operations within Area 10 at TEADS;
- III.C.2.b. The Permittee shall post warning signs to keep unauthorized personnel out of the EDS operational area;
- III.C.2.c. The Permittee shall comply with all requirements for pre-placement of waste, placement of waste in treatment units, wiring and ignition and the post- detonation inspection and cleanup activities identified in this Permit;
- III.C.2.d. The Permittee shall provide operators with a fully functioning means of communication that can be used to contact support personnel, including security, safety and firefighting units, whenever the operators are inside the environmental enclosure;
- III.C.2.e. The Permittee shall inspect the EDS Area and support equipment through regular inspections and in accordance with the inspection plan in Attachment 11. Inspection records shall be maintained at the facility;
- III.C.2.f. The Permittee shall train all operators of the EDS in accordance with Condition II.H and Attachment 9 of this Permit.
- III.C.3. All EDS waste treatment operations shall have a monitoring plan and an air monitoring system appropriate to the operation and the expected fills of the items to be destroyed. At a minimum, the monitoring system shall be capable of detecting releases of the chemical agents and/or toxic industrial chemicals being treated, with detection limits less than or equal to levels of concern for worker safety and levels that are protective of unprotected individuals potentially subject to exposure to emissions from the waste treatment operation.

III.D. SPECIAL REQUIREMENTS

- III.D.1. Smoking is prohibited at the EDS location except in designated smoking areas.
- III.D.2. Open flames, smoking, cutting, welding, hot surfaces, excessive frictional heat, and sparks are prohibited in the Environmental Enclosure and surrounding work areas when munitions are present.
- III.D.3. Reactive wastes (i.e., explosives in the energetic components) shall be treated in the EDS. Explosives operators shall be trained to minimize handling of items to be treated in the EDS to reduce the potential for dropping.

III.E. WASTE TRACKING

- III.E.1. The Permittee shall track all hazardous waste in accordance with Attachment 2 and maintain this information in the operating record for the EDS.
- III.E.2. After treatment, waste liquids and waste solids shall be transferred to suitable waste containers/drums. All drums and other waste containers shall be DOT-approved.
- III.E.3. The EDS Containment Vessel and waste handling system containers or drums shall be maintained in good condition. The contents of a leaking waste container or drum shall be transferred to non-leaking containers.
- III.E.4. The EDS Containment Vessel and waste handling system containers and drums shall be inspected before each use and in accordance with the Inspection Schedule in Attachment 11.
- III.E.5. EDS waste handling system containers and drums shall be:
 - III.E.5.a. compatible with the hazardous wastes to be stored;
 - III.E.5.b. kept closed except when it is necessary to add or remove waste; and
 - III.E.5.c. marked with the words "Hazardous Waste," an accumulation start date, and information identifying contents.

III.F. PRE-DETONATION ACTIVITIES

- III.F.1. Prior to placing any hazardous waste into the EDS for treatment, the Permittee shall conduct pre-detonation activities in accordance with Attachment 1. The Permittee shall also conduct the required inspections in accordance with the inspection schedule in Attachment 11. The Permittee shall also comply with the following conditions:
 - III.F.1.a. If the treatment units have not been inspected the same day the unit is loaded, the treatment unit shall be inspected prior to placing waste in the treatment unit;
 - III.F.1.b. Any treatment unit that fails one or more of the inspection criteria shall be removed from service until the problem is corrected;
 - III.F.1.c. No treatment is permitted unless either radio or telephone communication with emergency services is available;

- III.F.1.d. No treatment is permitted if any of the emergency equipment in Attachment 12 is not available for use at each unit;
- III.F.1.e. Each liquid waste container or drum used in an operation shall be staged on a spill containment pallet capable of holding the entire contents of the container or drum;
- III.F.1.f. The trailer on which the EDS is mounted shall be equipped with a secondary containment pan that can be drained to waste containers and drums. The secondary containment pan shall contain leaks from the EDS Containment Vessel;
- III.F.1.g. Each EDS unit shall be equipped with an emergency power generating system capable of providing backup power to critical and essential loads (i.e., monitoring equipment, lighting) in the event of a power outage;
- III.F.1.h. At least 30 inches of aisle space shall be maintained around EDS equipment during treatment and waste handling operations to allow for unobstructed movement of personnel and fire protection, spill control and decontamination equipment in response to an emergency during treatment or waste handling operations;
- III.F.1.i. The site specific Health and Safety Plan shall specify the protective clothing and equipment required to perform the operation. The Permittee shall follow the specifications in the Plan;
- III.F.1.j. A major change in treatment process chemistry such as a new treatment reagent or a change in the physical design of the EDS unit shall be approved by the Director before the change is implemented.

III.G. PREPARING WASTE FOR TREATMENT

- III.G.1. Prior to placing any hazardous waste in a treatment unit, the Permittee shall comply with all applicable provisions of Attachments 1, 2 and 4 of this Permit. The Permittee shall also comply with the following conditions:
 - III.G.1.a. There shall be at least two operators present when hazardous wastes are being handled or moved;
 - III.G.1.b. The treatment unit shall be loaded in accordance with internal safety procedures and the provisions identified in Attachment 1;
 - III.G.1.c. The amount of all donor material shall be recorded in the operating record;
 - III.G.1.d. Waste treatment shall only occur in an EDS Containment Vessel. Munition holders, fragment suppression systems, and shaped charges shall be appropriate to the munition(s) being treated. Drawings of the fragment suppression systems are depicted in Figures 9, 10 and 11.

III.H. TREATMENT OF WASTES

- III.H.1. The Permittee shall follow all applicable IOP's and SOP's for treatment and analysis of wastes.
- III.H.2. The Permittee shall follow all applicable conditions of Attachments 1, 4, 5, 6, and 7 regarding treatment of waste and air monitoring.
- III.H.3. The Permittee shall comply with the Destruction Plan for the TEADS EDS site. The Destruction Plan shall contain a Worker Population Limit (WPL) Exceedance Plan, the purpose of which is to provide information that will be used to investigate, identify and control sources of identified exceedances of chemical agents above the WPL in areas where exceedances are not expected during operations. All narrative contained in the Destruction Plan and all attachments, procedures, requirements and specifications therein are incorporated by reference and enforceable for the purpose of compliance with this Permit. The Permittee shall provide a draft version of the Destruction Plan to the Director at least 60 days before operations commence and a final version of the Destruction Plan prior to operations. During operations, the Permittee shall use the final version of the Destruction Plan provided to the Director.
- III.H.4. All treatment events shall be observed with a video camera from the command post.
- III.H.5. All treatment data shall be maintained in accordance with the requirements of UAC R315-8-5.3 and kept in the operating record in accordance with Attachment 1.

III.I POST-TREATMENT OPERATIONS

- III.I.1. In the event that detonation does not occur in the EDS, the operators shall wait 30 minutes before entering the environmental enclosure.
- III.I.2. Following treatment, the Permittee shall conduct the post-treatment inspection activities and cleanup activities in Attachment 1.
- III.I.3. Following treatment, the Permittee shall conduct the post-treatment waste analysis in Attachment 2.

III.J. INSPECTION SCHEDULES AND PROCEDURES

- III.J.1. The Permittee shall inspect the treatment areas in accordance with Attachments 1 and 11.
- III.J.2. Leaking equipment such as conveyance hose lines or pumps shall be repaired or replaced as soon as operationally feasible and prior to processing the next item.

III.J.3. If an EDS Containment Vessel is unfit for use, the Permittee shall place all EDS components in a safe configuration and remove the EDS from service. Examples of events that would require removing the EDS from service include experiencing a release or incident that results in impairment to the EDS Containment Vessel's integrity, requiring repair that goes beyond expected maintenance. Before the unit is placed back into operation, the Permittee shall notify the Director of the incident and provide a description of corrective measures implemented.

III.J.4. The Permittee shall inspect the EDS when it is in use in accordance with a checklist derived from the items in Table 24. This checklist may be amended or revised as appropriate but will always cover all items in Table 24 at a minimum.

III.K. ENVIRONMENTAL MONITORING REQUIREMENTS

III.K.1. The Permittee shall conduct monitoring in accordance with Attachments 1, 5, 6 and 7.

III.K.2. The Permittee shall report the results of monitoring and shall keep records of monitoring in accordance with Attachments 1, 4, 5, 6 and 7.

III.L. FACILITY MODIFICATION/EXPANSION

III.L.1. Modification of the design plans and specifications in Attachment 1 or construction of additional treatment units shall be allowed only in accordance with UAC R315-4-1.5.

III.M. CLOSURE

III.M.1. The Permittee shall close the EDS in accordance with the Closure Plan in Attachment 14.

III.N. TREATMENT AREA OPERATING RECORD

III.N.1. The Permittee shall maintain an operating record at the facility that describes the operation of the EDS. The operating record shall contain:

III.N.1.a. All information required by UAC R315-8-5.3;

III.N.1.b. Copies of all inspections required by this Permit;

III.N.1.c. All waste tracking information maintained in the electronic Waste Tracking Record;

III.N.1.d. Copies of all reports identified in Condition II.D and III.H and III.K; and

III.N.1.e. A running total of the type and quantity of hazardous waste that has been treated during the calendar year.

- III.N.2. The Permittee shall record results from leak checks and monitoring in the operating record. The Permittee shall maintain the operating record required by Permit Condition II.U at the EDS Site Office until closure. All other records required by this Permit shall be maintained for a minimum period of three years. The retention period of all records shall be extended automatically during the course of any unresolved enforcement action regarding the facility.