TEAD-S STORAGE PERMIT

MODULES:

ATTACHMENTS:

MODULE I - STANDARD PERMIT CONDITIONS

I.A. EFFECT OF PERMIT

I.A.1 The Permittee is allowed to store hazardous waste in containers and waste piles at Tooele Army Depot-South Area (TEAD-S) in accordance with the conditions of this Permit. The Permittee shall also comply with Utah Admin. Code R315-1, 2, 3, 4, 5, 6, 8, 9, 12, 13, 14, 50, 101 and 102 as applicable.

I.A.2 Any treatment, storage, or disposal of hazardous waste not authorized in this Permit or any other Hazardous Waste Permit is prohibited. Compliance with this Permit constitutes compliance, for purposes of enforcement, with the Utah Solid and Hazardous Waste Rules except for those requirements not included in this Permit which become effective by statute or under Utah Admin. Code R315-3-1.4.

I.A.3 Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations.

I.A.4 Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3007, 3008, 3013, or 7003 of RCRA (42 U.S.C. Sections 6927, 6928, 6934 and 6973), Section 106(a), 104, or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9606(a) commonly known as CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), or any other State or federal law providing for protection of human health or the environment from any imminent and substantial endangerment.

I.A.5 The attachments to this permit are incorporated by reference and are enforceable conditions of this permit, as are documents incorporated by reference into the attachments. Language in the modules of this permit supersedes any conflicting language in the attachments or documents incorporated into the attachments.

I.B. ENFORCEABILITY

I.B.1 Violations documented through the enforcement process of Utah Code Annotated 19-6-112, and upheld through judicial action, may result in penalties assessed in accordance with Utah Admin. Code R315-102.

I.C. OTHER AUTHORITY

I.C.1 The Director of the Division of Waste Management and Radiation Control (Director) expressly reserves any right of entry provided by law and any authority to order or perform emergency or other response activities as authorized by law.

I.D. PERMIT ACTIONS

I.D.1. This Permit may be modified, revoked and reissued, or terminated for cause, as specified in Utah Admin. Code R315-3-4.2 and Utah Admin. Code R315-3-4.4. If the Director determines that cause exists to modify, revoke and reissue, or terminate this Permit, the action will proceed in accordance with Utah Admin. Code R315-4-1.5.

I.D.2. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, requiring prior agency approval, or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

I.D.3. This Permit may be modified at the request of the Permittee in accordance with the procedures in the Utah Admin. Code R315-3-4.3. All modification requests involving the practice of engineering, including, but not limited to, design drawings, calculations, or sketches, shall be reviewed and stamped by a qualified Utah registered professional engineer and shall be included in the modification request.

I.E. SEVERABILITY

1.E.1 The provisions of the this Permit are severable and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. Invalidation of any State or federal statutory or regulatory provision which forms the basis for any condition of this Permit does not affect the validity of any other State or federal statutory or regulatory basis for said condition.

I.F. DUTIES TO COMPLY

I.F.1. The Permittee shall comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued in accordance with Utah Admin. Code R315-3- 6.2 or a temporary authorization issued in accordance with Utah Admin. Code R315-3-4.3. Any Permit noncompliance, other than authorized by an emergency permit or temporary authorization, constitutes a violation of the Utah Solid and Hazardous Waste Act, and is grounds for enforcement action, permit termination, revocation and reissuance, or modification or denial of a Permit renewal application.

I.G. PERMIT EXPIRATION

I.G.1 If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee shall apply for and obtain a new permit.

I.G.2 This permit is effective for ten years and will expire on September 28,2025. This permit and all conditions herein will remain in force until the effective date of a new permit, if the Permittee has submitted a timely (at least180 days prior to permit expiration), complete application and through no fault of the Permittee, the Director does not issue a new permit with an effective date on or before the expiration date of the previous permit.

I.H. REVIEW OF PERMIT

I.H.1 In accordance with the Utah Solid and Hazardous Waste Act, Utah Code Ann.§ 19-6-108(13), this Permit shall be reviewed five years after the effective date and modified as necessary.

I.I. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

I.I.1 It shall not be a defense for the Permittee in an enforcement action that it would have been

necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

I.J. DUTY TO MITIGATE

I.J.1 In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment resulting from the noncompliance and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

I.K. PROPER OPERATION AND MAINTENANCE

I.K.1 The Permittee shall, at all times, properly operate and maintain all facilities and systems which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary equipment or similar systems only when necessary to achieve compliance with the conditions of this Permit.

I.L. DUTY TO PROVIDE INFORMATION

I.L.1 The Permittee shall furnish to the Director, within the identified time frame any relevant information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit.

I.M. INSPECTION AND ENTRY

I.M.1 Pursuant to the Utah Solid and Hazardous Waste Act, Utah Code Ann.§ 19-6-109, the Permittee shall allow the Board, the Director, or their authorized officer, employee, or representative, upon the presentation of credentials and other documents, as may be required by law, to:

I.M.1.a Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept as required by the conditions of this Permit;

I.M.1.b. Have access to and copy, at reasonable times, any records that are kept as required by the conditions of this Permit;

I.M.1.c. Inspect at reasonable times any portion of the Facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit;

I.M.1.d Sample or monitor, at reasonable times, for the purposes of assuring compliance with the permit or the Utah Solid and Hazardous Waste Act, any substances or parameters at any location; and

I.M.1.e Make record of inspections by photographic, electronic, videotape, or any other

reasonable medium.

I.N. MONITORING AND RECORDS

I.N.1. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings (or equivalent recordings) for continuous monitoring instrumentation, copies of all reports and records required by this Permit, the certification required by Utah Admin. Code R315-8-5.6(g), and records of all data used to comply with the conditions of this Permit for a period of at least three (3) years from the date of the sample, measurement, report, certification, or recording unless a longer retention period for certain information is required by other conditions of this Permit. The Permittee shall retain, at the facility, all monitoring records from all surface water sampling, seep sampling, soil sampling, sediment sampling, groundwater monitoring wells, and associated groundwater surface elevations until three years past the end of the corrective action instituted to address releases of hazardous waste or hazardous waste constituents from any solid waste management unit created as a result of operations at Tooele Army Depot-South Area. These periods may be extended by the Director at any time by written notification to the Permittee. The retention times are automatically extended during the course of any unresolved enforcement action regarding the Facility to three (3) years beyond the conclusion of the enforcement action.

I.N.2. Pursuant to Utah Admin. Code R315-3- 3.1(j), records of monitoring information shall specify at a minimum:

I.N.2.a. The date(s), exact place(s), and time(s) of sampling or measurements;

I.N.2.b. The name(s), title(s), and affiliation of the individual(s) who performed the sampling or measurements;

I.N.2.c. The dates analyses were performed;

I.N.2.d. The individual(s) who performed the analyses;

I.N.2.e. The analytical techniques or methods used; and

I.N.2.f. The results of such analyses.

I.N.3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed shall be the appropriate method from Utah Admin. Code R315-50-6 or Table 1-1-4 (Sampling Methods) of the Waste Analysis Plan (Attachment 1), or an equivalent method approved by the Director. Laboratory methods shall be those specified in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 (Third Edition) (hereafter, referred to as SW-846), Standard Methods of Examination of Water and Wastewater (17th Edition)*. Other alternate methods approved in this Permit, or an equivalent method in accordance with Permit Condition I.P.4 of this Permit, will be allowed if approved by the Director.

I.N.4. The Permittee may substitute analytical methods that are equivalent or superior to those specifically approved for use in this Permit by modifying the Permit in accordance with Utah Admin. Code R315-3-4.3. The modification request shall provide information

demonstrating that the proposed method requested to be substituted is equivalent or superior in terms of sensitivity, accuracy, and precision (i.e., reproducibility).

I.O. REPORTING PLANNED CHANGES

I.O.1 The Permittee shall give written notice to the Director of any planned physical alterations or additions to any hazardous waste management unit or system within 60 calendar days prior to the planned alterations or additions.

I.P. REPORTING ANTICIPATED NONCOMPLIANCE

I.P.1 The Permittee shall give advance notice to the Director of any planned changes in the Permitted Facility or activity that may result in noncompliance with requirements of this Permit. Advance notice shall not constitute a defense for any noncompliance.

I.Q. CERTIFICATION OF CONSTRUCTION OR MODIFICATION

I.Q.1 The Permittee shall not commence storage of hazardous waste in a new hazardous waste management unit or in a modified portion of an existing Permitted hazardous waste management unit until:

I.Q.1.a. The Permittee has submitted to the Director by certified mail, express mail, or hand delivery, a letter signed by the Permittee and a registered professional engineer certifying that the unit has been constructed or modified in compliance with this Permit and is operationally ready.

I.Q.1.b. The Permittee has submitted as-built engineering drawings and specifications as appropriate; and

I.Q.1.c. The Director has reviewed and inspected the modified or newly constructed unit and has notified the Permittee in writing that the unit was found to be in compliance with the conditions of this Permit; or

I.Q.1.d. If, within fifteen (15) calendar days of the date of receipt of the letter in Permit Condition I.Q.1.a. the Permittee has not received notice from the Director of the intent to inspect, prior inspection is waived and the Permittee may commence storage of hazardous waste in the permitted unit certified in accordance with Permit Condition I.Q1.a.

I.R. TRANSFER OF PERMIT

I.R.1 This Permit may be transferred to a new owner or operator only if it is modified or revoked and reissued in accordance with Utah Admin. Code R315-3-4.1. Prior to transferring ownership or operation of the Facility during its operating life, the Permittee shall notify the new owner or operator, in writing, of the requirements of Utah Admin. Code R315-3, Utah Admin. Code R315-8 and this Permit.

I.S. TWENTY-FOUR HOUR REPORTING

I.S.1. In accordance with Utah Admin. Code R315-3- 3.1(l) (6), the Permittee shall orally report to the Director any noncompliance with this Permit which may endanger human health or the

environment. Any such information shall be reported as soon as possible, but not later than twenty-four (24) hours from the time the Permittee becomes aware of the noncompliance. Potential endangerment to human health and the environment shall include, but not be limited to:

I.S.1.a. Noncompliance with Condition II.A.1.

I.S.1.b. Any release to the environment of a P999 hazardous waste listed in Utah Admin. Code R315-2-11(e) (1) or an F999 hazardous waste as listed in Utah Admin. Code R315-2-10(e) (1) resulting in the following:

I.S.1.b.i. Confirmed agent concentrations at the TEAD-S Facility boundary exceeding the General Population Limits (GPL) specified below; or

I.S.1.b.ii. Any confirmed agent concentrations outside Engineering Controls at any agent monitor as specified in Attachment 4 (Contingency Plan).

Agent	GB/GA	VX	H/HD/HT	Lewisite
GPL Limit	6×10^{-7}	6×10^{-7}	2×10^{-5}	2×10^{-5}

I.S.2. In accordance with Utah Admin. Code R315-9, the Permittee shall orally report to the Director any spill of any hazardous waste or material which, when spilled becomes a hazardous waste. Any such information shall be reported as soon as possible, but not later than twenty-four hours from the spill occurrence. The oral report shall include the following:

I.S.2.a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies;

I.S.2.b. Any information of a release or discharge of hazardous waste, fire or explosion at the Facility which could threaten human health or the environment;

I.S.2.c. A description of the occurrence and its cause;

I.S.2.d. The name title, and telephone number of individual reporting;

I.S.2.e. The name, address and telephone number of the owner or operator;

I.S.2.f. The name, address and telephone number of the Facility;

I.S.2.g. The date, time and type of incident;

I.S.2.h. The location of the incident;

I.S.2.i. The name and quantity of materials involved;

I.S.2.j. The extent of injuries, if any;

I.S.2.k. An assessment of actual or potential hazard to the environment and human health, where this is applicable;

I.S.2.l. A description of any emergency action taken to minimize threat to human health and the environment;

I.S.2.m. The estimated quantity and disposition of recovered material that resulted from the incident; and

I.S.2.n. Any other information necessary to fully evaluate the situation and to develop an appropriate course of action.

I.S.3. Within fifteen (15) days of the oral report required by Condition I.S.1, the Permittee shall submit a written report to the Director that includes the following information:

I.S.3.a. The name, address and telephone number of the individual reporting;

I.S.3.b. A description of the incident including cause, location, extent of injuries, if any, and an assessment of actual or potential hazard to the environment and human health inside and outside the Facility;

I.S.3.c. The exact date and time of the incident;

I.S.3.d. The name and quantity of material(s) involved;

I.S.3.e. The estimated quantity of recovered material from the incident;

I.S.3.f. An assessment of whether the incident remains a threat to human health and the environment (whether the noncompliance has been corrected and the release has been adequately cleaned up); and

I.S.3.g. If the release or other noncompliance has not been adequately corrected or cleaned up, the anticipated time that the noncompliance or clean-up is expected to continue; the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance; or the steps taken or planned to adequately clean up the release.

I.T. MONITORING REPORTS

I.T.1 Monitoring reports shall be submitted at the intervals specified elsewhere in this Permit.

I.U COMPLIANCE SCHEDULES

I.U.1 Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than fourteen (14) days following each scheduled date.

I.V. MANIFEST DISCREPANCY REPORT

I.V.1 Manifest discrepancies shall be defined as differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste the Permittee actually receives. Significant discrepancies in quantity are: (1) for batch waste, any variation in piece count, such as a discrepancy of one drum in a

truckload, and (2) for bulk waste, variations greater than 10 percent in weight. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid or toxic constituents not reported on the manifest or shipping paper. If a significant discrepancy is discovered in a manifest, the Permittee shall attempt to reconcile the discrepancy. If not resolved within fifteen (15) days, the Permittee shall submit a written report, including a copy of the manifest, and efforts to reconcile the discrepancy, to the Director (see Utah Admin. Code R315-8-5.4).

I.W. UNMANIFESTED WASTE REPORT

I.W.1 This report shall be submitted to the Director within fifteen (15) days of receipt of unmanifested waste.

I.X. BIENNIAL REPORT

I.X.1 A biennial report shall be submitted covering facility activities during odd numbered calendar years. This report shall be submitted by March 1 of the following even numbered year.

I.Y. OTHER NONCOMPLIANCE

I.Y.1 The Permittee shall report in writing all other instances of noncompliance with this Permit not otherwise required to be reported in accordance with Permit Condition I.S of this Permit within seven days of discovering the noncompliance. The reports shall contain the information listed in Permit Condition I.S of this Permit. Reporting shall not constitute a defense for any noncompliance.

I.Z. OTHER INFORMATION

I.Z.1 Whenever the Permittee becomes aware that it failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit Application or in any report submitted to the Director, the Permittee shall submit such facts or corrected information within seven days of discovery.

I.AA. SIGNATORY REQUIREMENT

I.AA.1 All applications, reports or other information requested by or submitted to the Director shall be signed and certified in accordance with Utah Admin. Code R315-3- 2.2 and Utah Admin. Code R315-3- 3.1(k).

I.BB. CONFIDENTIAL INFORMATION

I.BB.1 The Permittee may claim confidential any information required to be submitted by this Permit in accordance with Utah Code Annotated §63-3-308 et seq., and Utah Code Annotated §19-1-306 and implementing regulations.

I.CC. CONFLICTS

I.CC.1. All conditions of this Permit supersede conflicting statements, requirements or procedures in any of the attachments to this Permit.

I.CC.2. If a conflict exists between conditions of this Permit, the most appropriate condition, as determined by the Director, shall be met.

I.CC.3. Upon discovery of a conflict, a modification to the Permit shall be initiated by the Permittee to meet the Director's determination.

I.DD. REPORTS, NOTIFICATIONS, AND SUBMISSIONS

I.DD.1 All reports, notifications or other submissions, which are required by this Permit to be transmitted to the Director shall be sent by mail or other means with proof of delivery to:

Director
Division of Waste Management and Radiation Control
Post Office Box 144880
Salt Lake City, Utah 84114-4880

Phone: (801) 536-0200

During normal business hours (8 am to 5 pm, Monday through Friday, except Utah State holidays) required oral notifications shall be given only to the Director or an Environmental Manager, Environmental Scientist, or Engineer employed by the Director to assist him in administering the hazardous waste program. Notifications made at other times shall be made to one of the aforementioned persons if the Permittee can contact such person at the Facility or at the office of the Division of Waste Management and Radiation Control. Otherwise, notification shall be made to the twenty-four hour answering service at (801) 536-4123. Notifications made to the twenty-four hour answering service shall include all applicable information required by this Permit. The Permittee shall give oral notification to the Director or an Environmental Manager, Environmental Scientist, or Engineer employed by the Director to assist him in administering the hazardous waste program on the first business day following notification to the twenty-four hour answering service.

I.EE. DOCUMENTS TO BE MAINTAINED AT THE FACILITY SITE

I.EE.1. The Permittee shall maintain at the Facility, until closure is completed and certified by an independent, registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

I.EE.1.a. Attachment 1(Waste Analysis Plan) as required by Utah Admin. Code R315-8-2.4.

I.EE.1.b. Attachment 2 (Inspection Plan) as required by Utah Admin. Code R315-8-2.6(b).

I.EE.1.c. Attachment 3 (Personnel Training) and records as required by Utah Admin. Code R315-8-2.7(d).

I.EE.1.d. Attachment 4, (Contingency Plan) as required by Utah Admin. Code R315-8-4.2(a).

I.EE.1.e. Operating record as required by Utah Admin. Code R315-8-5.3..

I.EE.1.f. Attachment 5, (Closure Plan) as required by Utah Admin. Code R315-8-7.

I.EE.1.g. Copies of manifests as required by Utah Admin. Code R315-5-4(a)(5) and Utah Admin. Code R315-5-4.40(a).

I.EE.1.h. A copy of the Permittee's waste minimization statement.

I.EE.1.i Plans and Operating Records as required by Utah Admin. Code R315-8-18 and Utah Admin. Code R315-8-22.

MODULE II - GENERAL FACILITY CONDITIONS

II.A. DESIGN AND OPERATION OF FACILITY

II.A.1. The Permittee shall maintain and operate all areas of waste management to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, groundwater or surface water which could threaten human health or the environment. Should one of these incidents occur, the Permittee shall investigate and determine the cause of the incident and implement corrective measures to prevent future occurrences. The Director may consider appropriate enforcement action, to include the cessation of waste management activities, until adequate resolution of the problem occurs.

II.A.2 Except for explosives or munitions emergency response, as defined by Utah Admin. Code R315-1-1(b), the Permittee shall not perform open burning or open detonation of hazardous waste at the OB/OD (open burning/open detonation) unit until this Permit has been modified to incorporate the requirements of Utah Admin. Code R315-8-16 for the OB/OD unit.

II.B. REQUIRED NOTICE

II.B.1. When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), the Permittee shall inform the generator in writing that Tooele Army Depot-South Area (TEAD-S) has the appropriate Permits for, and will conditionally accept the waste the generator is shipping. This will be accomplished by sending the generator a statement of these facts once for each waste stream. The Permittee shall keep a copy of this written notice as part of the operating record.

II.C. WASTE ANALYSIS PLAN

II.C.1. The Permittee shall comply with the waste analysis procedures found in Attachment 1 (Waste Analysis Plan), as well as all chain-of-custody procedures. In addition, the Permittee shall comply with any other conditions involving waste analysis.

II.C.2. The Permittee shall only use test methods described in Attachment 1 (Waste Analysis Plan) . Changes in test methods described in Attachment 1 (Waste Analysis Plan) as a result of an improvement or refinement by EPA or the State of Utah of that method shall be adopted by the Permittee in accordance with Utah Admin. Code R315-3-4.

II.C.3. The Permittee shall verify the analysis of each waste stream when new or modified wastes are generated and at least once every three years thereafter. The Permittee shall conduct a yearly evaluation of each waste stream and shall submit to the Director a letter report certifying that the known waste streams have not changed. The Waste Stream Evaluation Form as shown in Attachment 1 (Waste Analysis Plan) shall be used for this report.

II.C.4. Waste analyses will not be required for propellants, explosives and pyrotechnics. User knowledge will suffice unless an unknown component is suspected. Residues from the treatment of propellants, explosives and pyrotechnics are subject to Condition II.C.3.

II.C.5. At a minimum, the Permittee shall:

II.C.5.a. Maintain proper functional instruments;

II.C.5.b. Use approved sampling and analytical methods.

II.C.6. If the Permittee uses a contract laboratory to perform analyses, the laboratory shall be certified by the State of Utah to perform the contracted analyses. Provisional certification is not acceptable as certification under this paragraph. For parameters for which certification is unavailable, the laboratory shall provide quality control/quality assurance data sufficient to assess the validity of the data. The Permittee shall inform the laboratory in writing that it is required to follow the Waste Analysis Plan conditions set forth in Attachment 1 (Waste Analysis Plan).

II.D SECURITY PROCEDURES

II.D.1 The Permittee shall comply with the security conditions and procedures found in Attachment 9 (Security Plan).

II.E. INSPECTION PLAN

II.E.1. The Permittee shall follow the inspection procedures found in Attachment 2 (Inspection Plan). In addition, the Permittee shall comply with the following conditions as well as conditions pertaining to inspections in Modules I, II and III;

II.E.1.a The Permittee shall remedy any deterioration or malfunction as required by Utah Admin. Code R315-8-2.6(c). If the remedy requires more than seventy-two (72) hours from the time that the problem is detected, the Permittee shall submit to the Director, before the expiration of the seventy-two (72) -hour periods, a proposed time schedule for correcting the problem.

II.E.1.b. Records of inspections shall be kept as required by Utah Admin. Code R315-8-2.6 and Utah Admin. Code R315-8-9.5.

II.E.1.c Any problem which could endanger human health or the environment (tank rupture, dike failure, transportation spills, etc.) shall be corrected as soon as possible after the problem is discovered. If the threat to human health or the environment has not been eliminated within twenty-four (24) hours, the Permittee shall notify the Director.

II.E.1.d. Problems found during periodic inspections conducted under this Module shall be corrected within the time frame stipulated in Condition II.E.1. If, upon determination by the Director or the Permittee, continued operation of the waste management unit involved in the inspection could endanger human health or the environment, the Permittee shall cease operation of the unit until the problem has been corrected. The Permittee shall be allowed to undertake those operations that are part of corrective action activities.

II.E.1.e. The Permittee may make the following revisions to the Inspection Procedures (included as Attachment 2 of this Permit), in accordance with the procedures for Class 1 Permit Modifications, which require pre-approval from the Director, in accordance with Utah Admin. Code R315-3-4.3:

II.E.1.e.i Upon certification of closure of an individual hazardous waste management unit, any portion of the inspection plan specific to that unit may be deleted from the

Inspection Procedures.

II.E.1.e.ii The Permittee may modify inspection requirements in an existing inspection form, table, figure, or record in cases where such modifications will result in additional inspection procedures.

II.E.1.e.iii If necessary, the Permittee shall create additional inspection forms, tables, figures, or records to address inspection requirements for equivalent replacement equipment.

II.F. TRAINING PLAN

II.F.1 The Permittee shall conduct personnel training as required by Utah Admin. Code R315-8-2.7. The Permittee shall comply with the personnel training procedures found in Attachment 3 (Training Plan). New personnel working with or around hazardous waste shall complete the required personnel training on or within six (6) months after their hire date or assignment to the facility or to a new position at the facility. In addition, the Permittee shall comply with the following conditions;

II.F.1.a Facility personnel shall annually review their initial training in both contingency procedures and the hazardous waste management procedures relevant to the positions in which they are employed.

II.F.1.b The Permittee shall maintain training documents and records as required by Utah Admin. Code R315-8-2.7(d) and Utah Admin. Code R315-8-2.7(e), in accordance with Attachment 3 (Training Plan). These records shall indicate the type and amount of training received.

II.F.1.c The Permittee shall maintain a copy of the Attachment 3 (Training Plan) at the Facility until the Facility is fully closed and closure is certified.

II.G. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

II.G.l. The Permittee shall comply with the requirements of Utah Admin. Code R315-8-2.8. and the requirements of all applicable National Fire Protection Association (NFPA) codes.

II.G.2. In addition to the requirements of Utah Admin. Code R315-8-2.8., the Permittee shall comply with Conditions III.G and III.H pertaining to ignitable, reactive, or incompatible waste.

II.G.3 The Permittee shall separate and protect ignitable and reactive waste from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), water and radiant heat.

II.G.4. The Permittee shall take precautions to prevent reactions which:

II.G.4.a. Generate extreme heat or pressure, fire or explosions, or violent reactions;

II.G.4.b. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

II.G.4.c. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

II.G.4.d. Damage the structural integrity of the device or facility;

II.G.4.e. Through other like means, threaten human health or the environment.

II.H RESERVED

II.I. PREPAREDNESS AND PREVENTION

II.I.1. The Permittee shall follow the preparedness and prevention procedures found in Attachment 10 (Preparedness and Prevention Plan).

II.I.2. At a minimum, the Permittee shall equip and maintain in good operating condition at the Facility the equipment identified in Attachment 10 (Preparedness and Prevention Plan), as required by Utah Admin. Code R315-8-3.3.

II.I.3. The Permittee shall test and maintain the equipment specified in Condition II.I.2 as required by the National Fire Protection Association (NFPA) to assure its proper operation in time of emergency.

II.I.4. The Permittee shall maintain records of those preventative maintenance and repair activities specified in Condition II.I.2 and shall keep schedules reflecting minimum and planned frequency for the performance of preventative maintenance activities in the Operating Record at the facility.

II.I.5. The Permittee shall maintain access to the communications or alarm system as required by Utah Admin. Code R315-8-3.5.

II.I.6. At a minimum, the Permittee shall maintain aisle space as required by Utah Admin. Code R315-8-3.6. A minimum of 2.5 feet of aisle space is required in the container storage areas.

II.I.7. The Permittee shall attempt to make arrangements with State and local authorities as required by Utah Admin. Code R315-8-3.7. The attempts to make such arrangements, any refusals and all final arrangements shall be documented in the Operating Record.

II.J. CONTINGENCY PLAN

II.J.l. The Permittee shall comply with Attachment 4 (Contingency Plan), and follow the emergency procedures described by Utah Admin. Code R315-8-4.7 whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment. The Permittee shall comply with Utah Admin. Code R315-9 and Condition I.S in reporting releases to the Director.

II.J.2. The Permittee shall maintain copies of the plan in accordance with the requirements of Utah Admin. Code R315-8-4.4.

II.J.3. The Permittee shall review Attachment 4 (Contingency Plan) in accordance with Utah Admin. Code R315-8-4.5. The Permittee shall immediately amend, if necessary, Attachemnt 4

(Contingency Plan) in accordance with Utah Admin. Code R315-3-4.3.

II.J.4. A trained emergency coordinator shall be available at all times in case of an emergency as required by Utah Admin. Code R315-8-4.6. The names, addresses, and telephone numbers of all persons qualified to act as emergency coordinators shall be supplied to the Director as required by Utah Admin. Code R315-8-4.3(c).

II.K. MANIFEST SYSTEM

II.K.1. The manifest number shall be recorded in the Operating Record with each waste load that leaves the Permittee's facility. The Permittee shall comply with Utah Admin. Code R315-5-2 and Utah Admin. Code R315-8-5 for the movement of each waste load off site.

II.K.2. The manifest number shall be recorded in the Operating Record with each waste load that arrives at the Permittee's facility. The Permittee shall comply with the manifest requirements of Utah Admin. Code R315-8-5.2., Utah Admin. Code R315-8-5.4., and Utah Admin. Code R315-8-5.7.

II.K.3. If the waste load is refused and returned to the generator, such action shall be documented in the Operating Record.

II.L. RECORDKEEPING AND REPORTING

II.L.1. The Permittee shall maintain an accurate written Operating Record at the facility in accordance with Utah Admin. Code R315-8-5.3. and Utah Admin. Code R315-50-2.

II.L.2. The operating record shall be maintained on site and available for review as required by Condition I. N. and Condition I.DD.

II.L.3. The Permittee shall, by March 31 of each year, submit to the Director a certification pursuant to Utah Admin. Code R315-8-5.3, signed by the owner or operator of the facility or his authorized representative, that the Permittee has a waste minimization program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the Permittee to be economically practicable; and that the proposed method of treatment, storage, or disposal is the most practicable method currently available to the Permittee which minimizes the present and future threat to human health or the environment.

II.L.4 The Permittee shall comply with the biennial report requirements of Condition I.X.1. The report shall include wastes generated, treated or stored at the Permittee's facility during the previous odd-numbered year.

II.L.5. The Permittee shall submit additional reports to the Director in accordance with Utah Admin. Code R315-8-5.8.

II.M. CLOSURE

II.M.l. The Permittee shall comply with Utah Admin. Code R315-8-7 and close the facility in accordance with Attachment 5(Closure Plan).

II.M.2. For all hazardous waste management units, minor deviations from the procedures found in Attachment 5 (Closure Plan) that are necessary to accommodate proper closure shall be described in narrative form with the closure certification statements. The Permittee shall

describe the rationale for implementing minor changes as part of this narrative report. Within sixty (60) days after completion of closure of each hazardous waste management unit the Permittee shall submit the certification statements and narrative report to the Director.

II.M.3. The Permittee shall amend Attachment 5 (Closure Plan) in accordance with Utah Admin. Code R315-3-4.3 whenever necessary, or when required to do so by the Director.

II.M.4. The Permittee shall notify the Director in writing of the partial closure of any portion of the facility in accordance with Utah Admin. Code R315-8-7.

II.M.5 After receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste and complete closure activities in accordance with the schedule specified in Attachment 5 (Closure Plan).

II.M.6. The Permittee shall decontaminate or dispose of all facility equipment, structures, soil and rinsate as required by Utah Admin. Code R315-8-7 and Attachment 5 (Closure Plan). Facility equipment, structures and soil which have not been decontaminated shall be disposed of only at a hazardous waste treatment, storage or disposal facility that has a hazardous waste treatment, storage or disposal permit.

II.M.7. The Permittee shall certify that the facility has been closed in accordance with the specifications in Attachment 5 (Closure Plan) and as required by Utah Admin. Code R315-8-7, and shall provide a certification by an independent, registered professional engineer qualified by experience and education in the appropriate engineering field.

II.M.8. In the event that any hazardous waste management unit cannot be clean closed by removing hazardous waste, hazardous constituents, contaminated subsoil, and any contaminated groundwater as specified in Attachment 5 (Closure Plan) the Permittee shall submit the modified Closure/Post-Closure Plan for that hazardous waste management unit to the Director, as a Permit Modification request, in accordance with Utah Admin. Code R315-3-4.3. Within thirty (30) days of the date that the Director approves the modification request, the unit shall be closed as a landfill, in accordance with R315-8-7.

II.M.9. Wash waters resulting from decontamination of facility structures and equipment at the time of closure shall be sampled, analyzed and disposed in accordance with Attachment 5 (Closure Plan).

II.N. COST ESTIMATES FOR THE FACILITY CLOSURE

II.N.1 The Permittee is exempt from the requirements for closure cost estimates in accordance with Utah Admin. Code R315-8-8.

II.O. FINANCIAL ASSURANCE FOR THE FACILITY CLOSURE

II.O.1 The Permittee is exempt from the requirements for financial assurance in accordance with Utah Admin. Code R315-8-8.

II.P. LIABILITY REQUIREMENTS

II.P.1 The Permittee is exempt from liability requirements in accordance with Utah Admin. Code R315-8-8.

II.Q. AIR EMISSION STANDARDS (Subpart CC)

II.Q.1 The Permittee shall comply with Utah Admin. Code R315-8-22 for storage of hazardous waste in containers.

MODULE III – CONTAINERS

III.A. APPLICABILITY

II.A.1. The provisions of this module apply to the storage of hazardous waste in containers identified in Condition III.A.2 and Attachment 6 (General Facility Descriptions).

III.A.2. The designated hazardous waste storage areas are:

III.A.2.a Storage Igloos - Container storage of wastes with free liquids.

III.A.2.b Conex - Container Storage for wastes without free liquids.

III.B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

III.B.1. The Permittee may store in containers, only the hazardous wastes identified by these codes:

III.B.1.a D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D027, D028, D029, D030, D032, D034, D035, D036, D037, D039, D040, D043, F001, F002, F003, F005, U037, U044, U127, U131, U165, U210, P030, P033, P095, F999, P999.

III.B.2. The Permittee is prohibited from storing hazardous waste not identified in Condition III.B.1.a. Any addition of hazardous waste to Condition III.B.1.a requires modification of the permit in accordance with Condition I.D.3.

III.C. CONDITION OF CONTAINERS

III.C.1 If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste, or the container itself, to a Department of Transportation (DOT) approved container in accordance with Utah Admin. Code R315-8-9.2 as soon as possible but not later than 24 hours from the time the problem was discovered.

III.D. COMPATIBILITY OF WASTE WITH CONTAINERS

III.D.1 The Permittee shall ensure that the waste is compatible with the containers as required by Utah Admin. Code R315-8-9.3. The types of containers to be used for storage are identified in Attachment 12 (Container Management).

III.D.2. The Permittee shall follow the compatibility procedures identified in Attachment 12 (Container Management).

III.E. MANAGEMENT OF CONTAINERS

III.E.1 As required by Utah Admin. Code R315-8-9.4, the Permittee shall keep all containers closed during storage except when it is necessary to add or remove waste. The Permittee shall not open, handle or store containers in a manner which may rupture the container or cause it to leak.

III.E.2 The Permittee shall manage containers in accordance with Attachment 12 (Container Management).

III.E.3 The Permittee shall not store or stack containers higher than specified in Attachment 12 (Container Management).

III.E.4 The Permittee shall unload any properly manifested transport vehicle hauling containers of hazardous waste for storage within 10 days following arrival at the site. Arrival for purposes of this permit shall be the day the vehicle arrives at the facility.

III.E.5 The Permittee shall maintain aisle space as specified in Condition II.I.6 and Attachment 12 (Container Management).

III.E.6 The Permittee shall meet the secondary containment requirements of Utah Admin. Code R315-8-9.6.

III.F. CONTAINMENT SYSTEMS

III.F.1 The Permittee shall maintain the containment systems in accordance with Utah Admin. Code R315-8-9.6 and Attachment 12 (Container Management).

III.F.2 The container management areas and example stacking configurations are shown in Attachment 12 (Container Management). At capacity, the Permittee may store the following volumes of waste:

III.F.2.a. Storage Igloos - 42,240 gallons, which is 768 fifty-five-gallon containers or the equivalent;

III.F.2.b. OB/OD Conex - 440 gallons, which is eight 55-gallon containers or the equivalent;

III.F.3 Container management areas shall be inspected for the presence of free liquids in accordance with Attachment 2 (Inspection Plan). Any liquids discovered in drip pans shall be removed immediately, but in no case later than twenty-four hours after the liquid is discovered, and shall be managed according to the spill contingency plan outlined in Section 11 of Attachment 4 (Contingency Plan).

III.F.4. For purposes of determining compliance with permitted storage capacity, all containers stored in the hazardous waste storage areas shall be considered full to their respective capacities with hazardous waste.

III.G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

III.G.1. The Permittee shall not store containers holding ignitable or reactive waste within 50 feet of the Facility boundary in accordance with Utah Admin. Code R315-8-9.7.

III.G.2. The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and follow the procedures specified in Attachment 10 (Preparedness and Prevention Plan) and Condition II.G.

III.H. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

III.H.1. The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same container except as specified in Utah Admin. Code R315-8-9.8(a).

III.H.2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material in accordance with Utah Admin. Code R315-8-9.8(b).

III.H.3 Where wastes are placed into a container not fitted with a disposable liner and the container previously held an incompatible waste or material, the Permittee shall document compliance with Condition III.H.2 and shall place this documentation in the Operating Record.

III.H.4. The Permittee shall separate containers of incompatible.

III.I. INSPECTION SCHEDULES AND PROCEDURES

III.I.1. The Permittee shall inspect the container storage area at least weekly and in accordance with the Attachment 2 (Inspections) to detect leaking containers, standing liquids and deterioration of containers and to detect deterioration of or liquids in the secondary containment system caused by corrosion or other factors.

III.I.2. If problems are observed during the inspections required by Condition II.E., the Permittee shall correct the problem in accordance with Attachment 2 (Inspections).

III.I.3. When loading and unloading activities are occurring, the container storage area shall be inspected immediately upon completion of the loading or unloading activities.

III.J. RECORDKEEPING

III.J.1 The Permittee shall place the results of all waste analyses and any other documentation showing compliance with the requirements of Condition III.H.1 and Condition III.H.2 and Utah Admin. Code R315-8-9.8 and Utah Admin. Code R315-8-2.8(b) in the facility operating record. The Permittee shall maintain compliance with Condition II.F.

III.K. CLOSURE

III.K.1 At closure of the container area, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment system, in accordance with the procedures for closure as found in Attachment 5 (Closure Plan) and as specified in Utah Admin. Code R315-8-7 and Utah Admin. Code R315-8-9.9.

MODULE IV – RESERVED

MODULE V
CORRECTIVE ACTION PROGRAM (CAP)
FOR SOLID WASTE MANAGEMENT UNITS

TABLE OF CONTENTS

MODULE V
CORRECTIVE ACTION PROGRAM
FOR SOLID WASTE MANAGEMENT UNITS

V.A. SOLID WASTE MANAGEMENT UNITS (SWMUs)

V.A.1. The Permittee shall conduct a Corrective Action Program (CAP) for the SWMUs in Table 1A in accordance with this module.

V.A.2. The Director may append additional SWMUs to those listed in Table 1A in accordance with Utah Admin. Code R315.3.4.3, based on additional information received by the Permittee, the Director or any other knowledgeable source.

V.B. STANDARD CONDITIONS

V.B.1. Failure to submit the information required by this module or falsification of any submitted information is grounds for termination of this Permit in accordance with Utah Admin. Code R315-3-4.4.

V.B.2. The Permittee shall sign and certify all plans, reports, notifications, and other submissions to the Director, in accordance with Condition I.AA.

V.B.3. The Permittee shall submit two paper copies and one electronic copy of each plan, report, notification or other submissions, required by this module to the Director by mail or hand delivery to the address specified in Condition I.DD.

V.B.4. All plans and schedules required by this module shall, upon written approval from the Director, be incorporated by reference into this Permit. Any noncompliance with such approved plans and schedules shall be deemed noncompliance with this Permit.

V.B.5. The Permittee can only receive extensions of the specified compliance schedule due dates for the submittals required by this module in accordance with Condition V.I., and upon written approval from the Director.

V.B.6. All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data and other supporting information gathered or generated during activities undertaken pursuant to this module shall be maintained at the Facility during the effective term of this Permit. The Permitee shall provide copies of reports, logs, etc., to the Director upon request.

V.B.7 The Permittee shall provide seven days' advance notice of field activities associated with approved work plans. This notice may be provided by telephone, but shall be followed with a written notice within 72 hours.

V.C. RCRA FACILITY INVESTIGATION

V.C.1. The Permittee shall conduct a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) to determine the nature and extent of releases of hazardous wastes or hazardous constituent(s) to the environment, originating from any location at the Facility including a Solid Waste Management Unit (SWMU)to gather data to support the Corrective Measures Study (CMS). The Permittee shall conduct the RFI in accordance with Appendix A.

V.C.2. The Permittee shall prepare and submit the RFI Report as described in Appendix A for each SWMU.

V.C.4. Reserved

V.C.5. Reserved

V.C.6. The Permittee shall identify a need, if applicable, and recommend an alternate RFI schedule for the additional investigation of any SWMUs' potential or imminent threat to human health or the environment.

V.C.7. The RFI compliance schedules shall be modified in accordance with Condition V.I.

V.D. INTERIM MEASURES

V.D.1. If, during the course of any activity initiated in compliance with this module, the Director or the Permittee determines that a release or potential release of hazardous waste or hazardous constituents from a SWMU poses a threat to human health and the environment, the Permittee shall perform specific interim measures.

V.D.2 If any release or potential release of hazardous waste or hazardous waste constituents poses an immediate danger to the human health or the environment, the Permittee shall inform the Director immediately.

V.D.3. The Director shall notify the Permittee in writing of the requirement to perform any interim measures.in accordance with Condition V.D.4. If interim measures are required, the Permittee shall develop and submit an Interim Measures Plan to the Director for approval.

V.D.4. Within 30 days of receiving the written notification requiring the Interim Measures Plan as specified in Condition V.D.3, the Permittee shall provide the Interim Measures Plan to the Director for approval. At a minimum, the Interim Measures Plan shall include the requirements found in Condition V.E.4 and Condition V.E.5 as well as the following:

V.D.4.i Time required developing and implementing a final remedy;

V.D.4.ii Actual and potential exposure of human and environmental receptors;

V.D.4.iii Actual and potential contamination of drinking water supplies and sensitive ecosystems;

V.D.4.iv The potential for further degradation of the medium without interim measures;

V.D.4.v Presence of containerized or uncontainerized hazardous waste that may pose a threat of release;

V.D.4.vi. Presence and concentration of hazardous waste including hazardous constituent(s) in soils that have the potential to migrate to groundwater or surface water;

V.D.4.vii Weather conditions that may affect the current levels of contamination;

V.D.4.viii Risks of fire, explosion or accident;

V.D.4.ix. Other situations that may pose threats to human health and the environment; and

V.D.4.x Reasons related to funding.

V.D.5 The Director may require a 30-day public comment period prior to implementation of the interim measures or before approval of the interim measures report.

V.D.6 The Permitee shall provide the interim measures report as specified in the approved interim measures work plan. This report shall address the requirements of Utah Admin. Code R315-101 and post closure requirements in Module VI as required.

V.E. NOTIFICATION REQUIREMENTS FOR AND ASSESSMENT OF NEWLY IDENTIFIED SOLID WASTE MANAGEMENT UNITS

V.E.1. The Permittee shall notify the Director in writing within 30 days of discovery of any newly identified sites which the Permittee believes may meet the definition of a Hazardous Waste Management Unit (HWMU) or SWMU. Upon notification, a visit to the site will be scheduled. During the site visit, the Permittee shall present available information about the site as needed to justify a decision about how to manage the site. These decisions include: 1) a determination that the site is not an HWMU or SWMU; 2) a determination that the site will be addressed through the process outlined in Condition V.D for interim measures (if managed under Condition V.D, the site does not need to be added to Table 1A); 3) a determination that a newly identified SWMU needs to be added to Table 1A and that the Permittee must include the new SWMU in the RFI program as described in Appendix A.

V.E.2. If information is presented during the decision making process described in Condition V.E.1 to indicate that hazardous wastes were or may have been placed in a newly identified SWMU after November 19, 1980, the Director may consider the unit as a HWMU and require the Permittee to close the unit under the requirements of Utah Admin. Code R315-7 and Utah Admin. Code R315-101 of the Rules.

V.E.3. A decision as described in ConditionV.E.1 and ConditionV.E.2 shall be made within 30 days of the site visit. Thirty days after making a decision and choosing a site management process as described in Condition V.E.1, the Permittee shall submit a schedule for submittal of an interim measures plan or RFI Workplan.

V.E.4. The RFI Workplan, closure plan or interim measures plan shall include the following: a description of past and present operations and dates of operation; a description of site waste streams; all existing site environmental monitoring data; a sample and analysis plan; a quality assurance and quality control plan; plans for collection of human health and ecological risk assessment data and other data and information as needed to fulfill the requirements of Utah Admin. Code R315-101. The plan shall also include a schedule for plan implementation and a date for submittal of a draft final report of results.

V.E.5. The Permittee shall submit draft final and final RFI reports, closure reports or interim measures reports describing all results obtained from the implementation of the approved plans. The reports shall also include a risk assessment and address non-degradation of natural resources as described in Utah Admin. Code R315-101. The CMS Workplan may be submitted as part of the final RFI or as a separate document for approval by the Director.

V.E.6. Based on the results and conclusions proposed by the Permittee in the final RFI Report, closure report or interim measures report, the Director may approve the site for no further action (NFA) as defined in Condition V.F, require further investigations or require a CMS as described in Condition V.G. For SWMUs meeting the residential or industrial land use requirements of Utah Admin. Code R315-101, the Director will require a public comment period before approval of the RFI report. For SWMUs needing corrective action, a public comment period may be required.

V.F. DETERMINATION OF NO FURTHER ACTION

V.F.1. The Permittee may petition the Director for a determination of No Further Action (NFA) as described in Utah Admin. Code R315-101 for a HWMU or SWMU in accordance with Utah Admin. Code R315-8-6.11. NFA means the unit qualifies for residential land use and is no longer regulated under this Permit.

V.F.2. At a minimum, the NFA proposal for HWMUs and SWMUs shall contain information based on the RFI or other relevant information that demonstrates there are no releases of hazardous waste or hazardous waste constituents from the HWMUs or SWMUs at the Facility that pose a threat to human health or the environment in accordance with Utah Admin. Code R315-101.

V.F.3. A determination of NFA, in accordance with Condition V.F.1., shall not preclude the Director from requiring further investigations, studies or remediation at a later date, if new information or subsequent analysis indicates a release or potential of a release from a HWMU or SWMU at the Facility that is likely to pose a threat to human health or the environment. In such a case, the Director shall notify the Permittee in writing and provide specific requirements and schedules.

V.G. CORRECTIVE MEASURES STUDY AND IMPLEMENTATION

V.G.1. Based on the results of the RFI and for SWMUs requiring corrective action as described in Utah Admin. Code R315-101, the Permittee shall identify, screen and develop the alternative or alternatives for removal, containment, treatment and/or other remediation of the contamination. This information shall be included in the CMS Workplan; this workplan shall be submitted separately or with the Phase II RFI Report. The Permittee shall prepare the CMS Workplan as described in Appendix B.

V.G.2. Upon the Director's approval of the RFI Report and the CMS Workplan, the Permitee shall prepare and submit a CMS report for approval as specified in Table 3. This CMS report shall include a recommendation for corrective action based on the information in the CMS Workplan. A public comment period may be required prior to approval of the CMS Report.

V.G.3. Upon the Director's approval of the CMS report, the Permittee shall submit the Corrective Measures Implementation (CMI) plan for approval. The CMI plan shall be prepared in accordance with Appendix B.

V.G.4. The Permittee shall implement the approved CMI plan as specified in Table 3 or other approved schedules.

V.G.5. The Permittee shall submit a CMI Report within 180 days of completion of the CMI Workplan. This report shall be certified by a Utah registered professional engineer.

V.H. REPORTING REQUIREMENTS

V.H.1. The Permittee shall submit to the Director signed quarterly progress reports or meeting minutes describing activities (i.e., Interim Measures, RFI, CMS) conducted pursuant to this module.

V.H.2. These reports may be in the form of minutes from regular project management meetings or if no project management meetings are held during the quarter, the reports shall contain the following:

V.H.2.i. A description of the work completed;

V.H.2.ii. Summaries of all problems or potential problems encountered during the reporting period and actions taken or to be taken to rectify problems; and

V.H.2.iii. Projected work for the next reporting period.

V.H.3. In accordance with Condition V.F.3, the Director may require the Permittee to conduct new or more extensive assessments, investigations or studies as needed, based on information provided in these minutes, progress reports.

V.I. MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

V.I.1. Modifications of the following compliance dates in this module shall be submitted to the Director for approval:

V.I.1.i. The compliance date(s) for submittal of the RFI Final Reports in accordance with Table 2.

V.I.1.ii. The compliance date(s) for submittal of the CMS Report in accordance with Table 3.

V.I.1.iii. The compliance date(s) for submittal of the final Corrective Measures Implementation Program Plan in accordance with Table 3.

V.I.1.iv. Once established in accordance with Condition V.G.5., the compliance date(s) for submittal of the corrective measures final (100% completion) design and construction plans in accordance with Table 3.

V.I.1.v. Compliance dates for implementing the approved plans or reports; and

V.I.1.vi. Compliance dates for quarterly submittal of progress reports.

V.I.2. In accordance with Utah Admin. Code R315-3-15, the compliance schedules shall be modified if the Director determines that good cause exists for which the Permittee had no control and for which there is no reasonable available remedy.

V.I.2.i. Failure to obtain adequate funds or appropriations to conduct the Corrective Measures Implementation Program Plan in accordance with Condition V.G.3 shall be considered good cause for modification of the compliance schedule(s) as provided in Condition V.I.2 subject to the following conditions:

V.I.2.i.a. The Permittee shall use its best effort to secure all funds that may be required for implementation of the CMI plan.

V.I.2.i.b. If necessary, the Permittee shall seek by the most expeditious means possible, appropriations from the U.S. Congress. In accordance with Sections 1-4 and 1-5 of Executive Order 12088 as implemented by the Office of Management and Budget Circular A-106, as amended. Section 1-5 of Executive Order 12088 states, “The head of each executive agency shall ensure that sufficient funds for compliance with applicable pollution control standards are requested in the Agency budget.”

V.I.2.i.c. Immediately upon failure to obtain adequate funding, the Permittee shall submit to the Director, by certified mail, express mail or hand delivery, a written request and justification for modification of the compliance schedule. The written justification shall demonstrate that good cause exists, in accordance with Condition V.I.2.i. The Permittee shall also provide an alternate schedule of compliance for conducting the Corrective Measures Implementation for the subsequent fiscal year.

V.I.2.i.d. Upon evaluation, if the Director determines that good cause exists in accordance with Condition V.I.2.i, the Director shall modify the compliance schedule.

V.I.2.i.f. For any approved modification, the compliance schedule shall be modified to provide relief from the original compliance schedule time frames only for the subsequent fiscal year. All successive compliance dates after the end of such fiscal year shall be modified to reflect the original time frames specified prior to the modification request under Condition V.I.2.i.

V.I.2.ii. Failure to obtain adequate funds or appropriations from Congress shall not, in any way, release the Permittee from its obligation to comply with Condition V.G.3. or any other requirement of this permit or applicable rules.

V.I.2.iii. If adequate funds for corrective measures are not available, the Director may pursue any actions deemed necessary to protect human health and the environment, not excluding judicial recourse or termination of this permit.

V.I.3. The Permittee may submit a request for modifications of the interim compliance dates that do not affect the final compliance dates to the Director for approval.

FIGURE 1

LOCATION OF SOLID WASTE MANAGEMENT UNITS (SWMUS) TOOELE ARMY DEPOT-SOUTH AREA, TOOELE, UTAH

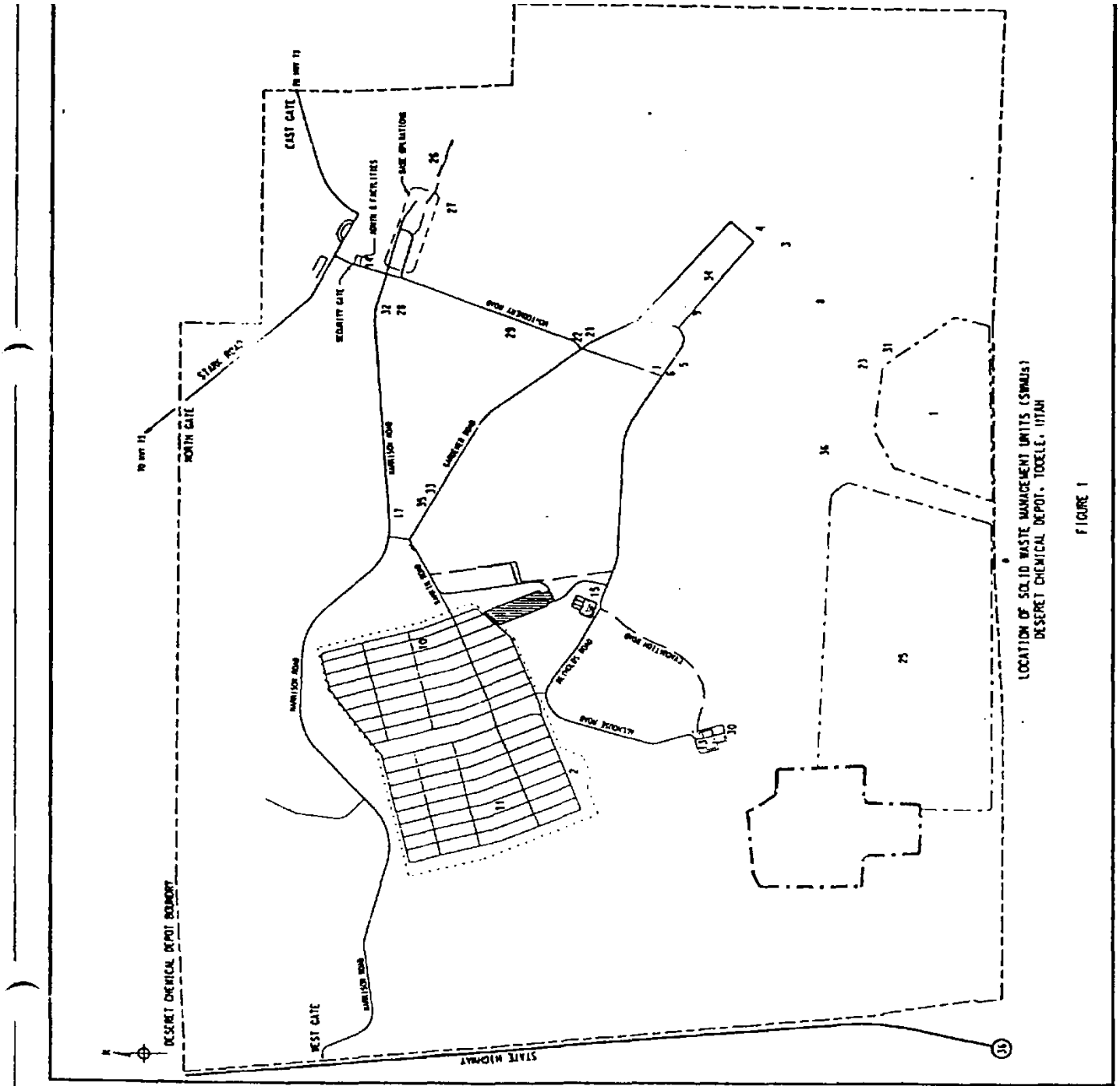

TABLE 1A
SOLID WASTE MANAGEMENT UNITS (SWMU[a])

SWMU NUMBER	SWMU DESCRIPTION
1	Demilitarization area/Disposal pits
2	Gravel pits (Area 10)
13	SWMU Chemical Agent Munition Disposal System Diesel fuel and chromium release
25	Demilitarization area/Disposal pits
26	Sanitary landfill (active)
27	Sewage treatment plant
30	Chemical Agent Munition Disposal System landfill
37	Slag piles and bomb fragments

[a]The SWMU numbering corresponds to that used in Ground-water Consultation No. 38-26-1364-86, September 5, 1986, conducted by the U.S. Army Environmental Hygiene Agency and the RCRA Facility Assessment, December 1987, prepared for the U.S. Environmental Protection Agency (USEPA).

TABLE 1B
AREAS OF CONCERN (AOCs[a])

AOC Number[b]	AOC Description
2	Salvage Yard
3	Ladder Dip Tank
5	Toxic Area 1
6	Toxic Area 2
7	Toxic Area 3
8	Classification Yard
9	Open Storage Pad 1
10	Open Storage Pad 2
11	Open Storage Pad 3
15	Demilitarization/Incineration Area
21[c]	Small Arms Range
23	Building 4553 Bomb Renovation Building Evaporation Pond
24	Building 1873 (2005) and Dry Well
27	Classification Yard Access Road Burial

TABLE 1B
AREAS OF CONCERN (AOCs[a])

AOC Number[b]	AOC Description

[a] AOCs will undergo a Phase I RFI in accordance with Module V Appendix A permit condition 1.A.1.
[b] AOC numbers are based on the Site of Potential Concern notation identified in the "Final Report for Identification of Sites of Potential Concern (SPC)," TEAD-S, November 2013.
[c] AOC 21 is deferred until final closure of the open burn/open detonation area.

Table 2	
RCRA FACILITY INVESTIGATION COMPLIANCE SCHEDULE FOR SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOC)	
RFI Activity	**Due Date**
Submit Final Phase I RFI Workplans and Reports to the Director for approval.	The Phase I RFI for the SWMUs listed in Table 1A is complete and has been approved. Minor data gaps are filled by submittal of variances and amendments to the approved workplan. The variances and amendments must be approved by the Director and documented in the Phase I RFI report.
Submit Final RFI-Phase II Workplans and Implement the Workplans to the Director for approval.	Minor data gaps are filled by submittal of variances and amendments to the approved workplan. The variances and amendments must be approved by the Director.
Submit Draft Final Phase II RFI Reports and CMS Workplans for each site or group of sites (grouping of sites is determined by the Permittee) to the Director for approval.	The Permittee shall annually provide an updated schedule. This schedule shall be submitted annually by September 30.
Submit Progress Reports to the Director.	Quarterly (every 90 calendar days).
Submit a Schedule for submittal of a Site-Wide Ecological Assessment for Director approval.	Within 90 days upon completion of Phase II RFIs.

TABLE 3 CORRECTIVE MEASURES STUDY (CMS) AND IMPLEMENTATION COMPLIANCE SCHEDULE FOR SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOC)	
CMS SUBMISSION/CMI SUBMISSION	**Due Date**
Submit CMS Workplans	CMS Workplans shall be incorporated into Phase II RFI Reports or submitted separately
Submit Draft Final CMS Report	As specified in the approved schedule to be included in Final CMS Workplans
Submit Final CMS Report	As specified in the Draft Final CMS Report
Submit Draft Final CMI~~)~~ Plan	As specified in the approved Final CMS Report
Submit Final CMI Plan	As specified in the Draft Final CMI Plan
Implement CMI Plan	As specified in the Final CMI Plan
Submit Draft Final CMI Report	Within 180 days of completion of the CMI Plan
Submit Final CMI Report	As specified in the Draft Final CMI Report
Conduct approved Post-Closure Activities and Implement any approved post-closure plans	As specified in the Final CMI Plan and Condition V.H.

MODULE V - APPENDIX A
RCRA FACILITY INVESTIGATION

1. OBJECTIVES AND PURPOSE

The objective of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) is to determine if releases of hazardous waste or hazardous waste constituents at any Solid Waste Management Unit (SWMU) or Area of Concern (AOC) pose an unacceptable risk to human health, ecological receptors or natural resources. The RFI has two main parts, Phase I and Phase II. The purpose of Phase I is to determine if a release has occurred. The purpose of Phase II is to define the nature and extent of any release and collect sufficient data to conduct risk assessments. Phase II also includes an evaluation of all data collected in Phases I and II and preparation of a Phase II Report. The evaluation of RFI data shall be conducted as defined in approved RFI Workplans, Utah Admin. Code R315-101 and approved documents describing groundwater management, applicable USEPA guidance and memorandums or other correspondence from the Director describing requirements for corrective action and long-term monitoring for landfills. The final RFI report may act as a final decision document for each site (e.g., no further action (NFA), remediation, etc.) The final decision document is presented to the public for comment.

1.A. Phase I RFI

The Permittee has met all the requirements of the Phase I RFI for all SWMUs listed in Table 1A. A Phase I RFI shall be conducted for AOCs listed in Table 1B.

1.A.1. Phase I RFI Reports for Newly Identified SWMUs and AOCs

Upon completing the Phase I investigation for newly identified SWMUs or AOCs, the Permittee shall prepare and submit for approval by the Director a Phase I RFI Report. This report shall be consistent in scope with the approved Phase I RFI Reports. This report shall recommend no further action, additional investigation as part of the Phase II RFI, immediate action under an interim measures plan as outlined in Condition V.D., or other action as deemed necessary by the Permittee. The Phase I Report shall be incorporated into the permit in accordance with Utah Admin. Code R315-3-15.

For AOCs where the results of the Phase I RFI indicate that additional investigation is required as part of the Phase II RFI, the AOCs shall be added to the Module V Table 1A and given a SWMU designation.

1.B. Phase II RFI Workplans

For SWMUs requiring Phase II RFI Workplans, the Phase II RFI Workplans shall be consistent in scope with the previously approved Phase II RFI Workplans.

1.B.1. Phase II RFI Workplan for Newly Identified SWMUs

Based on the results of the Phase I RFI Report for newly identified SWMUs, the Permittee shall prepare and submit a Phase II RFI Workplan. This workplan shall be consistent in scope with Phase II RFI Workplans approved for SWMUs listed in Condition1.B.

1.C. Phase II RFI Report

The Permittee shall prepare and submit to the Director for approval a Phase II RFI Report for SWMUs listed in Module V, Table 1 with an analysis and summary of all Phase I and Phase II RFI results. The objective of the evaluation and report is to ensure that the investigations for each SWMU are sufficient to describe the nature and extent of contamination, potential threats to human health and the environment, to prepare a risk assessment, address non-degradation of natural resources and a Corrective Measures Study (CMS) Workplan.

1.C.1. Phase II RFI Workplan and Report Requirements

The Phase II RFI Workplan and Report shall, at a minimum, address and include the following:

1.C.1.a. The sample analytical results, geophysical results, lithology logs, well logs, data quality assurance and quality control information, maps, survey data and other information as need to describe the nature and extent of contamination;

1.C.1.b. The information needed to identify sources of contamination, to estimate and describe the mass of contamination contained in sources or in contamination release in air or in groundwater plumes and to describe the use, value and vulnerability of groundwater as described in Appendix B.

1.C.1.c. The information needed to describe chemical specific contaminant migration;

1.C.1.d. The information needed to identify pathways of exposure to humans and ecological receptors and complete risk assessments as required by Utah Admin. CodeR315-101 and the "Risk Assumptions Document**"**);

1.C.1.e. The information needed to evaluate the geological pathways of contaminant migration in air, bedrock, soil, surface water or groundwater as required by Utah Admin. Code R315-101-3 and the "Risk Assumptions Document";

1.C.1.f. The information describing background levels of contamination or other protection standards for air, bedrock, groundwater, soil and surface water as described in Section 2 below;

1.C.1.g. A CMS Workplan as described in Appendix B;

1.C.1.h. The analytical or other information needed to independently reproduce conclusions and sample data as presented in text, spreadsheets, maps or other formats;

1.C.1.i. Plans for long-term inspection, monitoring and site management after corrective actions have been implemented or sites have been designated as needing no further action under an industrial risk scenario in accordance with Module VI and the Post Closure Plan Attachments.

1.C.1.j. Other information as required by the Director.

1.C.2. PROTECTION STANDARDS

The levels of contamination as identified in the RFI Reports or other reports shall not be allowed to increase beyond the existing contamination levels determined through appropriate monitoring or the use of other data accepted by the Director, in accordance with Utah Admin. Code R315-101-3. The Permittee shall propose site-specific protection standards as outlined in Condition 1.C.2A and Condition 1.C.2.B.

1.C.2.A. Air, Groundwater, Surface Water and Soil Standards

The Permittee shall propose protection standards for air, groundwater, soil and surface water for approval by the Director. These standards shall include, but are not limited to: statistically derived background concentrations for naturally occurring elements and compounds, human health and ecological risk-based standards as set by Utah Admin. Code R315-101, the USEPA or other credible organizations acceptable to the Director, technology based limits such as maximum concentration limits (MCL) listed in Utah Admin. Code R315 and other standards as applicable. These standards shall be proposed in the Phase I and Phase II RFI Reports and CMS Workplans or other reports and plans as applicable.

1.C.2.B. Chemical Agent Standards for Soil

The Permittee shall assess concentration levels for agents GA, GB, GD, GF, H, HD, HT, L and VX in soil. The "agent free concentration level" shall be defined as the agent concentration in the soils and waste not to

exceed the detection limit for determining agent concentrations in soil and waste (i.e., solvent extraction methods). The detection limits for determining agent concentrations in soil and waste is technology driven and shall be evaluated by the Permittee or the Director by laboratory audits or other methods as needed.

The Director may also approve an alternate limit. For any proposed alternate limit, the Permittee shall include a justification based upon the criteria specified in Utah Admin. Code R315-101.

1.C.3. Other Relevant Protection Standards

The Permittee shall document all relevant and applicable standards for the protection of human health and the environment including, but not limited to National Ambient Air Quality Standards and state or federal approved water quality standards.

1.C.3.A COMMUNITY RELATIONS PLAN

In addition to the public comment requirements as described in Module V the Permittee has implemented this plan and informed the public by organizing a Restoration Advisory Board (RAB) and holding regular RAB meetings. The Permittee shall maintain the RAB and hold regular RAB meetings until such time that the RAB decides that a RAB is no longer necessary.

1.C.4. SITE-WIDE ECOLOGICAL ASSESSMENT

The Permittee shall complete a site-wide ecological assessment as required by Utah Admin. Code R315-101. The purpose of this assessment shall be to determine if residues from waste management activities at all HWMUs, and SWMUs, combined in their entirety, are a threat to ecological receptors. The assessment shall address all presently permitted or formally permitted sites under corrective action (SWMUs), HWMUs and any units closed under post-closure. This assessment shall be conducted in accordance with applicable USEPA guidance as approved by the Director and as described in Module V. The assessment shall address each of the plant communities located at TEAD-S, wildlife receptors for each trophic level and any threatened and endangered species, and may include species-specific toxicity testing.

MODULE V - APPENDIX B
CORRECTIVE MEASURES STUDY AND CORRECTIVE MEASURES IMPLEMENTATION

1. OBJECTIVES

The objectives of the Corrective Measures Study (CMS) and Corrective Measures Implementation (CMI) are to evaluate corrective action alternatives and design and implement the chosen alternative as needed for protection of human health and the environment. The CMS and CMI shall be completed for each SWMU that does not meet the risk based no further action (NFA) or industrial closure criteria outlined in Appendix A, Module V, Utah Admin. Code R315-101 and as recommended in approved Phase II RCRA Facility Investigation (RFI) Reports and CMS Workplans. The corrective action design and implementation information shall be included in the CMI plan.

1.A. Establish Corrective Action Objectives (CAO)

The CMS Workplan shall establish SWMU specific CAOs. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA and State of Utah guidance, and the requirements of any applicable State and Federal statutes. Any corrective actions concerning groundwater releases must provide human health and environmental protections consistent with those required under Utah Admin. Code R315-101 and other requirements or groundwater management plans approved by the Director. The Permittee shall also consider the use, value and vulnerability of groundwater in establishing CAOs and preparing groundwater management plans.

2. DEVELOPMENT OF CORRECTIVE ACTION ALTERNATIVES

Based on the results of the RFI, the Permittee shall identify, screen and develop the alternatives for removal, containment, treatment or other corrective action of the contamination based on the CAOs. This information shall be included in the CMS Workplan. This information shall also be developed and reported as required by Condition 2.A., Condition 2.B. and Condition 2.C.

2.A. Description of Remedial Actions

The CMS Workplan shall include a statement of the purpose for the response. The statement of purpose shall identify the actual or potential exposure pathways that should be addressed by corrective measures. The RFI Reports and CMS Workplan shall also include information regarding previous response activities, interim measures and voluntary cleanup activities.

2.B. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI to identify technologies which are appropriate for the facility. The Permittee shall screen technologies and identify those having severe limitations, those that present safety hazards for a given set of waste and site-specific conditions or that do not meet the requirements of this Permit or the Utah Admin. Code. The screening may eliminate technologies based on these criteria. Site, waste and technology characteristics which are used to screen inapplicable technologies are described in more detail in 2.B.1. through 2.B.3.

2.B.1. Site Characteristics and History

Site data shall be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics or safety hazards shall be eliminated from further consideration. If information that is classified by the U.S. Government will impact the CMS, and the Director has not reviewed or will not have access to this information, the existence of the classified information shall be identified in the CMS Workplan. The Permittee shall provide for the Director to review or be made aware of the essential elements of this information.

2.B.2. Waste Characteristics

Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics shall be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods and land disposal (on/off-site). For SWMUs where chemical warfare agent or chemical warfare agent residues are present, the Permittee shall identify chemical warfare agent safety, surety or other Army requirements that may impact use of certain technologies.

2.B.3. Technology Limitations

During the screening process, the level of technology development, performance record and inherent construction, operation and maintenance problems shall be identified for each technology considered. Technologies that are unreliable, perform poorly or are not fully demonstrated shall be eliminated in the screening process. Technologies evaluated by the Interstate Technology Regulatory Council (ITRC) (see http://www.itrcweb.org/) may be favored for use with minimum requirements for site specific testing and prove-out.

2.C. Identification of Corrective Measure Alternatives

The Permittee shall develop the corrective measure alternatives based on the CAOs, and shall report these alternatives in CMS Workplans. The Permittee shall rely on engineering practice to determine which technologies appear most suitable for each SWMU. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative developed shall represent a workable number of option(s) that appear to address all site problems and corrective action objectives. The Permittee shall document in the workplan the reasons for excluding technologies.

3. EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes the screening as described in Section 2 and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates for each corrective measure.

3.A. Technical/Environmental/Human Health/Institutional

The Permittee shall evaluate each alternative using the criteria outlined below.

3.A.1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, efficacy of implementation and safety.

3.A.1.a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

3.A.1.a.i Effectiveness shall be evaluated in terms of the ability to perform intended functions, including but not limited to containment, diversion, removal, destruction or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. The evaluation shall also consider the effectiveness of combinations of technologies.

3.A.1.a.ii Useful life is defined as the length of time the level of effectiveness can be maintained. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the

technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

3.A.1.b. The Permittee shall provide information on the reliability of each corrective measure including its operation and maintenance requirements and its demonstrated reliability. Demonstrated reliability measures the risk and effect of failure. The Permittee shall evaluate whether the technologies have been used effectively under analogous conditions, whether the combination of technologies have been used together effectively, whether failure of any one technology has an immediate impact on receptors and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

3.A.1.c. The Permittee shall describe the implementation of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response. The Permittee shall estimate the time that will be required to implement a corrective measure and the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

3.A.1.d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider include but are not limited to fire, explosion and exposure to hazardous substances.

3.A.2. Environmental

The Permittee shall perform an environmental assessment for each alternative. The environmental assessment for each alternative shall include an evaluation of any adverse effects on environmentally sensitive areas and an analysis of measures to mitigate adverse effects.

3.A.3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short and long-term potential exposure to any residual contamination and protects human health both during and after implementing the corrective measures. The assessment shall describe the types and levels of contaminants on-site, potential exposure routes and potentially affected populations. Each alternative shall be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact shall be determined by comparing residual levels of each alternative with existing criteria, standards and guidelines acceptable to the Director.

3.A.4. Institutional

The Permittee shall assess the effects of federal, state and local environmental and public health standards, regulations, guidance, advisories, ordinances and community relations on the design, operation and timing of each alternative.

3.B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative and for each phase or segment of the alternative. The cost estimate shall include capital and operation and maintenance costs.

4. RECOMMENDATION OF A CORRECTIVE MEASURE AND PREPARATION OF THE CMS REPORT

The Permittee shall justify and recommend a corrective measure alternative in the CMS Report. The Permittee shall submit summary tables of the corrective measure alternative recommendations. Tradeoffs among health risks, environmental effects and other pertinent factors shall be highlighted. The Director

shall approve the corrective measure alternative or alternatives to be implemented. The following criteria shall be used to select the final corrective measure or measures.

4.A. Technical

4.A.1. Performance - corrective measures which are most effective at performing their intended functions and maintaining performance over extended periods of time;

4.A.2. Reliability - corrective measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated;

4.A.3. Implementability - corrective measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time; and

4.A.4. Safety - corrective measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation.

4.B. Human Health

The corrective measures shall comply with existing federal and state criteria, standards and guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

4.C. Environmental

The corrective measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored. The corrective measures shall be assessed as to the degree to which they employ treatment that reduces toxicity, mobility or volume of hazardous wastes and/or hazardous constituents.

4.D. Other Pertinent Factors

The Permittee shall justify the recommended alternative by describing other pertinent factors, such as cost. In addition, all other factors being equal, in-situ technology alternatives shall be favored.

5. CORRECTIVE MEASURES IMPLEMENTATION PROGRAM AND PREPARATION OF CMI WORKPLANS

The purpose of the Corrective Measure Implementation (CMI) Program is to design, construct, operate, maintain and monitor the performance of the corrective measures selected to protect human health and the environment as described below. This information shall be included in the CMI Workplans.

5.A. Corrective Measure(s) Design

The Permittee shall prepare final construction plans and specifications to implement the corrective measure(s) at the facility as defined in the CMS. The construction plans and specifications shall include, but not be limited to:

5.A.1. Design plans and specifications;

5.A.1.a. Design strategy and basis for implementation;

5.A.1.b. Currently accepted environmental control measures, construction practices and techniques and the constructability of the design . The Director has approved use of a performance rather than technology based standard for landfill covers. This performance standard

is one millimeter or less water infiltration per year though any current or proposed landfill cover. All landfill cover designs shall meet this standard or provide justification if the design or current site conditions exceed this standard.

5.A.1.c. Assumptions, detailed drawings including, but not limited to, process flow diagrams, general arrangement and any applicable piping and instrumentation diagrams), equipment and specifications and material and energy balances; and

5.A.1.d. A discussion of the possible sources of error and potential operation and maintenance problems.

5.A.2. Short-term and long-term operations, inspection, maintenance and monitoring plans as needed;

5.A.2.a. Normal and alternate operation and maintenance practices including, but not limited to tasks for operation, tasks for maintenance, prescribed treatment or operation conditions and schedule identifying frequency;

5.A.2.b. Routine monitoring and laboratory testing including, but not limited to, description of monitoring tasks, required laboratory tests and their interpretation, required Quality Assurance/Quality Control and a schedule of monitoring frequency;

5.A.2.c. Equipment description (including equipment identification, installation of monitoring components, maintenance procedures and replacement schedule) and records and reporting including, but not limited to, daily operating logs, laboratory records, records for operating costs, reporting emergencies, personnel and maintenance records and required reports to be stored at the facility;

5.A.2.d. Alternate operating and maintenance procedures to prevent undue hazard due to system failure and analysis of vulnerability and additional resource requirements should a failure occur; and

5.A.2.e. Safety plan during routine operation and safety tasks in the event of systems failure.

5.A.3. Cost estimate.

5.A.4. Project schedule identifying timing for initiation and completion of all critical path tasks, dates for completion of the project and major milestones.

5.A.5. Construction quality assurance objectives (including but not limited to the responsibility and authority, personnel qualifications, inspection activities, sampling requirements and documentation).

5.A.6. Health and safety plan.

5.A.7. Design phases may include a preliminary design, additional studies, pre-final design and final design as specified in approved plans or reports:

5.A.7.a. Preliminary Design. The preliminary design is a 30% design. The technical design requirements of the project shall be adequate to determine if the final design will provide an operable and usable corrective measure. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program. The Permittee shall include calculations reflecting the same percentage of completion as the designs they support. If the approved alternative is a standard industry practice or considered a presumptive remedy (see http://www.epa.gov/superfund/policy/remedy/presump/pol.htm) and can be easily implemented, the Director may not require a preliminary design for review and approval.

5.A.7.b. Additional studies to supplement the available technical CMI data may be required. Upon written notification from the Director, the Permittee shall provide sufficient sampling, testing and analysis to optimize the required treatment and/or disposal operations and systems. A final report of the testing shall include all data taken during the testing and a summary of the results of the studies.

5.A.7.c. Prefinal Design. The prefinal design is a 95% design. The pre-final design submittal shall include the Design Plans and Specifications, the Operations and Maintenance Plan, the Project Schedule, the Quality Assurance Plan, specifications for the Health and Safety Plan and the Construction Quality Assurance Plan as described in Condition 5.B. Depending on the site and alternative proposed, the Director may not require a pre-final design for review and approval.

5.A.7.d. Final design. The final design is a 100% design. The final design submittal shall include the Final Design Plans and Specifications, the Final Operation, the Maintenance and Monitoring Plan, the Final Quality Assurance Plan, the Construction Quality Assurance Plan as described in Condition 5.B, the Final Project Schedule, and Final Health and Safety Plan specifications. The final design and pre-final or preliminary design may be the same submittal.

5.B. Corrective Measure(s) Construction

Following Director approval of the final design, the Permittee shall implement a construction quality assurance program to ensure, with a reasonable degree of certainty, that a completed corrective measure meets or exceeds all design criteria, plans and specifications. The construction quality assurance plan is a facility-specific document that shall be submitted to the Director as part of the design for approval and prior to the start of construction. At a minimum, the construction quality assurance plan shall include the elements identified in Condition 5.B.1 and Condition 5.B.2. Upon the Director's approval of the construction quality assurance plan, the Permittee shall construct and implement the corrective measures in accordance with the approved design, schedule and the construction quality assurance plan. The Permittee shall also implement the elements of the approved operation required for long-term maintenance and any conditions required to enter into post-closure.

5.B.1. The responsibility and authority of all organizations and the qualifications of all personnel shall be described in the construction quality assurance plan.

5.B.2. The observations and tests that will be used to monitor the construction and/or installation of the components of the corrective measure(s) shall be summarized in the construction quality assurance plan. The plan shall include the scope and frequency of each type of inspection. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, air quality and emissions monitoring records and waste disposal records. The inspections shall also ensure compliance with all health and safety procedures.

5.B.2.a. A preconstruction inspection and meeting shall be held to discuss methods for documenting and reporting inspection data, reviewing the distribution and storage of documents and reports, reviewing work area safety, discussing appropriate modifications to the construction quality assurance plan and conducting a site visit.

5.B.2.b. Upon preliminary project completion, the Permittee shall conduct a pre-final inspection consisting of a walk-through inspection of the entire site. The inspection is to determine whether the project is complete and consistent with the corrective measures approved by the Director. The Permittee shall operationally test the treatment equipment. The Permittee shall demonstrate and document that the equipment has performed to meet the purpose and intent of the specifications. Retesting shall be completed where deficiencies are revealed. If necessary, a pre-final inspection report shall outline the outstanding construction items, actions required to resolve items, completion date(s) for these items, and the date of the final inspection.

5.B.2.c. Upon completion of all outstanding construction items, the Permittee shall notify the Director for the purposes of conducting a final inspection. A final inspection by the Director or his representatives will focus on confirming compliance with the design specifications and corrective measures objectives.

5.C. Sampling Requirements

The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria and plans for correcting problems shall be presented in the Corrective Measures Design.

5. D. Documentation

Reporting requirements for construction quality assurance activities shall be described in detail in the Corrective Measures Design and CMI Plan. This shall include but not be limited to such items as daily summary reports, inspection data sheets, problem identification and corrective measure reports and design acceptance reports.

6. LONG-TERM INSPECTION, MAINTENANCE AND MONITORING

The Permittee shall address long-term inspection, monitoring and maintenance in the CMI Workplan and as described in Module V. The CMI plan shall propose addition of long-term monitoring plans to a post-closure permit or other plan as needed in accordance with Module VI. The Permittee shall implement the inspection, maintenance and monitoring requirements contained in the CMI Plan upon implementing the corrective measure.

7. REPORTS

7.A. Corrective Measures Study (CMS) Workplan and CMS Reports

The Permittee shall prepare CMS Workplan and CMS reports in accordance with the schedule specified in Table 3.

7.B. Progress Reports

The progress reports shall contain the following information:

7.B.1. A description and estimate of the percentage of the CMS completed;

7.B.2. Summaries of all findings;

7.B.3. Summaries of all changes made in the CMS during the reporting period;

7.B.4. Summaries of all problems or potential problems encountered during the reporting period;

7.B.5. Actions being taken to rectify problems;

7.B.6. Projected work for the next reporting period; and

7.B.7. Copies of daily reports, inspection reports, laboratory and monitoring data shall be held at the facility until the CMI is completed.

7.C. Corrective Measure Implementation (CMI) Reports

At the completion of construction, the Permittee shall submit a CMI Report to the Director for approval. The report shall establish that the project was implemented and/or built according to the specifications and

that the corrective measure is performing adequately. The report shall include, but not be limited to, the following elements:

7.C.1 Certification by an independent professional engineer registered in the state of Utah of the design and construction;

7.C.2 Explanation of any modifications to the plans and why these modifications were necessary;

7.C.3 Listing of the performance or other criteria established for judging the functioning of the corrective measure and also justifying any modification to these criteria;

7.C.4 Results of facility monitoring, indicating that the corrective measure meets or exceeds the performance criteria; and

7.C.5 This report shall include all of the daily inspection summary reports, inspection summary reports, inspection data sheets, problem identification and corrective measure reports, block evaluation reports, photographic reporting data sheets, design engineers' acceptance reports, deviations from design and material specifications and as-built drawings.

MODULE VI
POST-CLOSURE CONDITIONS AND STANDARDS FOR SOLID WASTE MANAGEMENT UNITS (SWMUs)

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LIST OF FORMS
(POST-CLOSURE SITE INSEPCTION FORMS)

FORM A – General Post-Closure Site Inspection Checklist, Industrial Closure/Industrial Use Sites
FORM B – Reserved
FORM C – Reserved
FORM D – Excavation Permit Coordination

LIST OF ATTACHMENTS

DESCRIPTION **ATTACMENT NO.**

MODULE VI
POST-CLOSURE CONDITIONS AND STANDARDS FOR SOLID WASTE MANAGEMENT UNITS (SWMUs)

VI.A SOLID WASTE MANAGEMENT UNITS (SWMU) and HAZARDOUS WASTE MANAGEMENT UNITS (HWMU)

VI.A.1 The Permittee shall comply with post-closure requirements for the SWMUs and HWMUs listed in Module VI, Table 1.

VI.A.2 The Permittee shall comply with the general requirements applicable to all sites requiring post closure care as found in Module VI. Site-specific requirements for each SWMU/HWMU are provided in each site-specific post closure plan.

VI.B PERMIT CONDITIONS

VI.B.1 Failure to submit the information required by the conditions in Module VI or falsification of any submitted information is grounds for termination of this permit in accordance with Condition I.D.1.

VI.B.2 All plans, reports, notifications and other submissions to the Director of the Division of Waste Management and Radiation Control (Director) as required by the conditions in Module VI shall be signed and certified in accordance with Condition I.AA.

VI.B.3 The Permittee shall submit two paper copies and one electronic copy of each plan, report, notification or other submissions, required Module VI to the Director by mail or hand delivery to the address specified in Condition I.DD.

VI.B.4 All plans and schedules, as required by Module VI, upon written approval from the Director, shall be incorporated into Module VI. Any noncompliance with such approved plans and schedules shall be deemed noncompliance with this Permit.

VI.B.5 The Permittee can only receive extension(s) of the specified compliance schedule due date(s) for the submittal(s) required by Module VI, upon written approval from the Director in accordance with Condition V.I.

VI.B.6 All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data and other supporting information gathered or generated during activities undertaken pursuant to Module VI shall be maintained at the Facility during the effective term of this Permit. The Permittee shall provide copies of reports, logs, etc., to the Director upon request.

VI.B.7 The Permittee shall provide seven day advance notice of field activities associated with approved workplans. This notice may be provided by telephone, but shall be followed-up in writing within 72 hours.

VI.B.8 The Permittee shall inspect, monitor and maintain any landfill, caps, fences, signs, treatment systems or other items at the SWMUs/HWMUs listed in Table 1 and as specified in the post closure permit attachments in accordance with the conditions of this Permit.

VI.B.9 The Permittee shall give notice to the Director 60 days prior to a planned alteration to the closed HWMU or SWMU or permitted activity.

VI.C MONITORING AND RECORDS

VI.C.1 Monitoring and Records

VI.C.1.a Samples and measurements taken for the purpose of monitoring shall be accurate and representative of the monitored activity. The method used to obtain representative samples shall be described in an approved Quality Assurance Project Plan (QAPP). The analysis of all samples, except chemical agents shall be conducted by State certified laboratories.

VI.C.1.b The Permittee shall retain as part of the Operating Record all records or reports required by this Permit for the duration of the post-closure period. This period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action.

VI.D RESERVED

VI.E DOCUMENTS TO BE MAINTAINED AT FACILITY SITE

VI.E.1 The Permittee shall maintain for the duration of the post-closure care period the following documents and amendments, revisions and modifications to these documents:

VI.E.1.a Post-closure Permit and any amendments.

VI.E.1.b Post-closure monitoring records, to include monitoring of environmental media and analytical results, any environmental media treatment system unit records and analytical results and records of the effectiveness of any environmental media treatment systems as required by this Permit.

VI.E.1.c Certification of Closure for each SWMU/HWMU as required by Utah Admin. Code R315-7-14.

VI.E.1.d Inspection forms and schedules as required by Utah Admin. Code R315-8-2.6(b)(2) and this Permit.

VI.E.1.e Operating Records required by Utah Admin. Code R315-8-5.3 and this Permit.

VI.E.1.f Copies of all required submittals.

VI.E.1.g Copies of the Facility's Post-Closure Excavation Permit and any other related land use documents and requirements, including records showing removal of soils or construction at any HWMUs or SWMUs listed in Table 1.

VI.E.2 The Permittee shall follow the Excavation Permit process as described in Form D. The Permittee shall use the Excavation Permit and Form A to verify land use, compliance with institutional controls and management of environmental media at the SWMUs/HWMUs listed in Table-1.

VI.F SWMUs and HWMUs SUBJECT TO POST-CLOSURE REQUIREMENTS

TABLE - 1				
Post Closure Permit SWMUs and HWMUs.				
MODULE VI ATTACHMENT NO.	SITE	TYPE OF CLOSURE	REQUIRED INSPECTION FORM	
			FORM NO.	FORM TYPE
1	SWMU 9	Industrial	A	Industrial Post Closure
2	SWMU 19	Industrial	A	Industrial Post Closure
3	SWMU 33	Industrial	A	Industrial Post Closure
4	SWMU 28	Industrial	A	Industrial Post Closure

VI.F.1 SWMUs where site controls are not required for soils within 0 to 10 feet below ground surface (ft bgs) but other "special restrictions" are required are listed in Table 2. Special restrictions may include prevention of installation of drinking water wells, required groundwater monitoring, and/or notice of industrial levels of contamination in soils greater than 10 ft bgs and/or restricted use due to presence of Munitions of Explosive Concern (MEC).

TABLE – 2		
Special Restrictions for Post Closure SWMUs/HWMUs		
SWMU/HWMU NUMBER	SWMU/HWMU DESCRIPTION	INSPECTIONS/RESTRICTIONS
SWMU 5	Building 600 foundation, drainage pond and ditch	• Soil at depths greater than 10 ft bgs may include hexavalent chromium at levels exceeding industrial risk levels. • Groundwater monitoring shall be conducted in accordance with the recommendations outlined in the "Final Hydrogeological Assessment and Recommendations Report" July 2013.
HWMU 31	Former Open Burn/Open Detonation Area	• The Permittee shall ensure that any development or use of the site is tracked through the Excavation Permit Process and controls are in place to ensure protection against potential surface and buried MEC.
SWMU 8	Kickout area associated with HWMU 31	• The Permittee shall ensure that any development or use of the site is tracked through the Excavation Permit Process and controls are in place to ensure protection against potential surface and buried MEC.
SWMU 23	Kickout area associated with HWMU 31	• The Permittee shall ensure that any development or use of the site is tracked through the Excavation Permit Process and controls are in place to ensure protection against potential surface and buried MEC.
SWMU 29	Immediate areas bordering the former	• The area immediately outside the

TABLE – 2		
Special Restrictions for Post Closure SWMUs/HWMUs		
	SWMU	boundary of the former SWMU may contain buried debris and/or drums. The Permittee shall ensure that any intrusive activities include anomaly avoidance to ensure protection of workers.

VI.G COMPLIANCE SCHEDULE

VI.G.1 The Permittee shall submit a post closure plan within 180 days after the Director approves the CMI Completion Report.

VI.H POST-CLOSURE MAINTENANCE AND MONITORING

VI.H.1 The Permittee shall inspect, maintain, monitor and track activities at the SWMUs listed in Table 1 throughout the post-closure care period in a manner that will ensure detection of a release of hazardous waste, hazardous waste constituents, leachate, contaminated runoff or hazardous waste decomposition products to the air, soil, groundwater, or surface water from the closed unit, and in a manner that will prevent unauthorized site use or unauthorized use of any excavated soil. The Permittee shall maintain any inspection, monitoring, security, treatment and other necessary equipment throughout the post-closure care period in a manner that will ensure detection of a release from the closed unit and minimize the possibility of fire, explosion, or any sudden or non-sudden release of hazardous waste constituents to air, soil, surface water or groundwater which could threaten human health or the environment.

VI.H.2 The Permittee shall ensure that installation of drinking water wells is prohibited at the SWMUs/HWMUs without prior approval of the Director.

VI.H.3 The Permittee shall follow the existing Facility excavation permit coordination procedures as contained in Form D prior to initiating any intrusive actives at the SWMU/HWMU. Applications for excavation permits shall be documented using Form D, Excavation Permit.

VI.I SECURITY

VI.I.1 Specific security requirements for each SWMU/HWMU listed in Table 1 are presented in the post closure permit attachments.

VI.J GENERAL INSPECTION REQUIREMENTS

VI.J.1 The Permittee shall follow the inspection schedules as specified in the post closure permit attachments. All records of inspections and remedial actions shall be retained in the Operating Record throughout the post-closure care period.

VI.J.2 Inspections shall be documented on required forms as provided in Module VI and as indicated in the post closure permit attachments and as summarized in Table 3.

Table -3 - General Site Inspection Checklists, TEAD-S Post-Closure Plans:

TABLE - 3		
Required Inspection Form(s)		
SWMU NUMBER	Type of Closure	Form Type
9	Risk-based, Industrial	Form A
19	Risk-based, Industrial	Form A
28	Risk-based, Industrial	Form A
33	Risk-based, Industrial	Form A

VI.J.3 Upon discovering any deterioration or malfunction, the Permittee shall perform corrective action as required by Utah Admin. Code R315-8-2.6(c). Corrective action shall be conducted as soon as practicable from the time the problem is discovered. If corrective action is extensive or will require more than 30 days to complete, the Permittee shall provide a corrective action schedule for approval by the Director.

VI.J.4 If either the Director or the Permittee determines that any corrective action could endanger human health or the environment, the Permittee shall cease the activity until the problem has been corrected.

VI.J.5 Records of inspections shall be kept at the Facility, as required by Utah Admin. Code R315-8-2.6(d).

VI.J.6 The Permittee shall inspect post-closure groundwater-monitoring wells at the frequency specified in each site-specific post closure plan as specified below:

VI.J.6.a Inspect for damage to the above ground casing of the well.

VI.J.6.b Inspect for damage to cement apron and ensure that the annulus is properly sealed.

VI.J.6.c Check for visible damage and any tampering to locks and monitoring well caps.

VI.J.6.d Ensure that the wells are accessible and visible.

VI.K TRAINING REQUIRMENTS

VI.K.1 The Permittee shall comply with the personnel qualification, training, and training documentation requirements, where applicable, listed in this Permit. Additionally, inspectors of any post-closure care units shall be trained (documentation required), at a minimum, in the following:

VI.K.1.a Attachment 4 (Contingency Plan),

VI.K.1.b Site-specific Post-Closure Plans,

VI.K.1.c General Post-Closure Site Inspection Checklists (Form A)

VI.K.1.d Site-specific SWMU/HWMU Post-Closure Inspection Checklists (included in site-specific post-closure permit attachments).

VI.L PREPAREDNESS AND PREVENTION

VI.L.1 Preparedness and Prevention measures, for each site listed in Table 1, shall be specified in the post closure permit attachments, or in Attachment 4(Contingency Plan), where applicable to each site. Any modifications of this provision shall be made in accordance with Condition I.D.3.

VI.M SAMPLING, ANALYTICAL AND QA/QC PROCEDURES

VI.M.1 Analytical data obtained from samples collected for compliance with this Module shall be obtained using procedures specified in an approved QAPP.

VI.N RECORDKEEPING AND REPORTING

VI.N.1 The Permittee shall submit reports and notifications as required by this Module and as specified in the post closure permit attachments for each site to the Director documenting post-closure inspection and monitoring activities and results from analyses of samples. Copies of all Permit-related records will be maintained in the Operating Record.

VI.O POST-CLOSURE CARE

VI.O.1 For each site listed in Table 1, the Permittee shall conduct all post-closure activities in accordance with the post-closure plans as specified in the post closure attachments. Each post-closure plan shall include information and requirements to satisfy the requirements of Utah Admin. Code R315-1 through Utah Admin. Code R315-101 for closure of landfills, surface impoundments, storage areas, tanks and other units. Types of site inspections required for each SWMU are outlined in Table 3 and the corresponding post-closure inspection forms are provided as Form A of Module VI.

VI.O.2 Unless specified in a schedule included in the site-specific post closure attachment, the Permittee shall submit analytical results from all sampling activities required under Module VI within 180 days of receipt of the analytical results from the laboratory. All groundwater elevation data shall be submitted to the Director within 60 days of receipt of the analytical results from the laboratory. A report briefly describing analytical data quality shall be included with the results. If the Permittee cannot meet the 180-day requirement, the Permittee shall contact the Director and propose an alternate schedule for approval. The proposal shall include justification for not submitting the information within 180 days.

VI.P GROUNDWATER

Reserved

VI.Q AREAS IMPACTED BY MERCUR OUTWASH

VI.Q.1 The Permittee shall ensure that areas potentially impacted by the Mercur Outwash, namely the eastern half and southeastern corner of the Facility (refer to Figure 1 of Module V) are evaluated in the excavation permit process prior to development or other intrusive work and to ensure controls are in place to ensure adequate worker protection from potential exposure to metals in soil that have been impacted by the Mercur Outwash.

FORM A
GENERAL POST-CLOSURE SITE INSEPCTION CHECKLIST
Industrial Closure/Industrial Use Sites

Site: _____
Date: _____

1. List any site-specific inspection requirements outlined in the Site Post Closure Plan and any special tracking conditions in Module VI Table 2.

_____
_____
_____

2. Inspect the site and surrounding land use. Does the area remain in industrial use?
☐ Yes
☐ No*
**If no, notify the TEAD-S Environmental Office to determine the appropriate course of action.*
Comments:_____
_____
_____

3. Were any dig permits issued for this site since the last inspection?
☐ Yes*
☐ No
**If yes, notify the TEAD-S Environmental Office to determine the appropriate course of action.*

4. Are posted warning signs, security measures, and/or perimeter fencing and locks in good condition and in place?
☐ Yes
☐ No*
**If no, notify the TEAD-S Environmental Office to determine the appropriate course of action. If the fence is damaged; mark the area of fence needing repair.*

5. Is there any soil disturbance in the vicinity of the site? (This may also include conditions of roads up to site: significant potholes and/or erosion.)
☐ Yes*
☐ No
**If yes, verify any change to the site and describe excavation or other activities.*
Notify the TEAD-S Environmental Office to determine the appropriate course of action.
Comments:_____
_____
_____

6. Is there any orphan waste at the site?
☐ Yes*
☐ No

**If yes, notify the TEAD-S Environmental Office to determine the appropriate course of action.*
Comments:_____
_____
_____

7. Verify the security of Groundwater Monitoring Wells – (are caps intact, securely locked, etc.)
Comments:_____
_____
_____

Name of Inspector: _____
Company: _____
Signature of Inspector: _____
Time and Date of Inspection: _____ Site Location: _____

FORM B – RESERVED

FORM C - RESERVED

FORM D
EXCAVATION PERMIT COORDINATION

This Excavation Permit form shall be used by the Facility contractor or Facility personnel prior to beginning any excavations.

I. Procedures:

a. The Excavation Requester shall begin the process for an excavation permit as early in the development of the project as possible to assure the acceptability of the proposed work and site and to avoid complications from approval delay.

b. The request will indicate any critical time constraints and be accompanied by three items:

1) A detailed map of the area showing where the undertaking will occur.

2) A larger scale small map or sketch showing dimensions and depth of the proposed excavation along with distances and orientations from local landmarks.

3) Name, telephone number and email (if applicable of a point of contact designated by the Excavation Requester).

c. These documents shall be forwarded to appropriate reviewers with suspense for comments.

d. The reviewers will be provided two weeks to review the request documents. At the end of that time, a signed approval form or detailed explanation of the problems and issues will be due back to the requester.

e. After notification of approval of the excavation permit, the excavation requestor will notify the blue stake teams of the projected start dates. A 48-hour advance notice is needed so that the blue staking can be in place prior to start of the excavation. The excavation requestor has the responsibility to mark the extents of the excavation and to protect the markings through blue stake procedures and excavation.

f. An approved Excavation Permit will be valid for the period of the project as identified.

g. An excavation permit for a new project within the limits of a previous metal sweep can be granted without an additional metal sweep if a site visit produces no indications of additional hazards having been introduced to the site.

Exemptions: The following are the only approved excavations that can be performed without an approved Excavation Permit.

a. Removal of material from existing gravel or borrow pits, within the marked limits of a previously cleared Excavation Permit.

b. Excavations within the marked limits of a previously cleared excavation permit are exempt from the requirement to obtain an additional metal sweep.

c. Repairs to a broken underground utility line where the location is clearly indicated and no additional utilities have been placed over the line and no hazards have been introduced to the area since the construction of the line.

FORM D – TEAD-S EXCAVATION PERMIT

APPENDIX A

EXCAVATION PERMIT

(Proponent Agency is Engineering Services Division)

(TEAD-R 420-16)

PERMIT EFFECTIVE DATE FROM ☐ TO ☐

EXCAVATION REQUEST BY _____ PHONE _____

LOCATION OF EXCAVATION _____

PURPOSE OF EXCAVATION _____

EXCAVATOR IS RESPONSIBLE TO MAINTAIN UTILITY MARKINGS AND IS LIABLE FOR ANY DAMAGE CAUSED THROUGH THE FAILURE TO MAINTAIN MARKINGS

BASED UPON DRAWINGS AVAILABLE, AND PERSONAL KNOWLEDGE OF THE AREA FOR WHICH I AM RESPONSIBLE, THE SITE IS FREE OF UNDERGROUND FACILITES OR SYSTEMS EXCEPT AS NOTED. IF YES IS CHECKED THE CONTRACTOR IS REQUIRED TO NOTIFY THE UNDERSIGNED 24 HOURS IN ADVANCE OF EXCAVATION.

NOTIFICATION REQUIRED	YES	NO
FACILITY SUPPORT DIVISION BLDG 502 (435) 833-2603	☐	☐
ELECTRICAL BLDG 502 (435) 833-2603	☐	☐
WATER BLDG 502 (435) 833-2603	☐	☐
TELEPHONE CONTRACTOR BLDG 10 (435) 833-3200/2000	☐	☐
ENVIRONMENTAL OFFICE BLDG 8 (435) 833-2761	☐	☐
SAFETY OFFICE BLDG 516 (435) 833-3888	☐	☐
FIRE DEPARTMENT BLDG 8 (435) 833-2015	☐	☐

BLUE STAKES Notification Required ☐ YES ☑ NO Confirmation Number ☐

If "yes" is checked privately owned utilities exist in the excavation area. In addition to notifying the required Government organizations listed above, the excavator is required to notify BLUE STAKES (801) 983-1555, and coordinate marking of utilities by BLUE STAKES, and the Government in the excavation area. this permit is not valid if yes is checked and the confirmation number is missing.

ENGINEERING SERVICES DIVISION CHIEF OR CONTRACTING OFFICERS REPRESENTATIVE (COR)-BLDG 501 OR FOR IN-HOUSE PROJECTS FACILITY SUPPORT DIVISION REPRESENTATIVE.

SIGNATURE: _____ DATE: ☐

NOTE: THIS PERMIT IS TO BE COMPLETED AND ATTACHED TO THE WORK ORDER PRIOR TO THE WORK ORDER BEING ISSUED. AFTER HOUR EMERGENCIES? CALL (435) 833-2911 OR (435) 833-2015. EXCAVATOR MUST HAVE A VALID PERMIT IN POSSESSION BEFORE/DURING EXCAVATION.

COMMENTS

TEAD FORM 2782-R REV MAY 201 (PREVIOUS EDITION ARE OBSOLETE)

TOOELE ARMY DEPOT - SOUTH AREA
(TEAD-S)

MODULE VI

ATTACHMENT 1

SOLID WASTE MANAGEMENT UNIT (SWMU) 9
POST CLOSURE PLAN

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Tables

LIST OF ACRONYMS AND ABBREVIATIONS

ABP	Agent Breakdown Product
CFR	Code of Federal Regulations
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
DWMRC	Division of Waste Management and Radiation Control
EO	Environmental Office
IMPA	Isopropyl Methylphosphonic Acid
MPA	Methylphosphonic Acid
PCP	Post Closure Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
TEAD-S	Tooele Army Depot South Area

1.0 INTRODUCTION

The three objectives of this Post-Closure Plan (PCP) are: 1) ensure that Tooele Army Depot- South Area (TEAD-S) complies with the Permit; 2) outline the requirements needed to prevent exposure or contact with contamination left in place at this Solid Waste Management Unit (SWMU); and 3) to ensure that future land use is industrial use only. To meet these objectives, this PCP provides detailed information regarding the location, regulatory criteria and post-closure inspections at SWMU 9. Post-closure requirements shall continue for a minimum of 30 years. The post-closure care period may be extended or shortened, as deemed necessary by the Director.

In accordance with Utah Admin. Code R315-3-2.19, the PCP shall include specific information for a closed facility. As applicable to SWMU 9, the information requirements include:

- General description of the facility,
- Description of security procedures,
- General inspection schedule,
- Preparedness and Prevention Plan,
- Facility location information (including seismic and flood plain considerations),
- Closure Plan or Closure Proposal,
- Certificate of Closure,
- Topographic map, with specific scale,
- Summary of groundwater monitoring data, and
- Identification of uppermost aquifer and interconnected aquifers.

2.0 FACILITY DESCRIPTION

The following provides a general description of SWMU 9, as required by Utah Admin. Code R315-3-2.5(b)(1).

2.1 SWMU 9 LOCATION AND HISTORY

SWMU 9 encompasses approximately 145 acres (USATHAMA, 1979) and includes the former open-storage portion of the Area 2 chemical munitions safeguarding area and the Old Area 2, which is southwest of the current Area 2. The SWMU also includes an area southeast of Old Area 2 that reportedly contained burn pits. SWMU 9 is no longer used for agent storage (Foster Wheeler, 1999a).

2.2 PAST OPERATIONS

This site was used for chemical munitions storage (GB, VX, and mustard containers). One-ton containers were stored on rail lines. Munitions were also stored in tin sheds in the area. The site was used for munitions storage from the 1960s to the early 1980s. Known minor mustard releases have occurred at this site and other releases are probable. Burn pits have also been discovered in the area.

2.2.1 Area 2

Area 2 stored munitions containing mustard, nerve agents, chemical agent identification sets and war gas identification sets. Area 2 consisted of 23 chemical munitions storage buildings and an open area where one-ton containers of mustard, GB and VX were stored on rails (Foster Wheeler, 1999a; Weston, 1991). The rails were placed in 1967 to hold canisters from Area 10. VX spray tanks were reportedly stored on ties between the buildings in Area 2, while the GB and mustard containers were stored on 10 pairs of rails south of the buildings in an area that was approximately 0.75 mile long. Open storage continued in Area 2 until 1974, when the containers were transferred back to Area 10 (Foster Wheeler, 1999a).

2.2.2 Old Area 2

Old Area 2, southwest of Area 2, stored M70 bombs, mustard, chemical agent identification sets and a limited number of one-ton containers of mustard and lewisite prior to 1967. Two to three sheds at the south end of Old Area 2 contained one-ton containers of mustard and CG. Several of the mustard containers leaked onto the ground by the sheds. The locations of the leaks were decontaminated by treating the area with bleach and plowing the surface soil. Old Area 2 reportedly also contained burn pits in the southern portion of the site. Open storage continued in Old Area 2 until the mid-1980s (Foster Wheeler, 1999a).

A Corrective Measure Study (CMS) was conducted in 1996 to address the human health risks found in the Phase II Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) (Foster Wheeler, 1999b). The CMS proposed that institutional controls would prevent residential use of land and shallow groundwater (Foster Wheeler, 1999b). The decision document accepts the CMS preferred alternative of institutional controls (Foster Wheeler, 1999c). The decision document has been submitted to the state and approved.

2.3 PREVIOUS INVESTIGATIONS DOCUMENTATION

Pre-RFI	**Phase I RFI**	**Phase II RFI**	**CMS**	**Decision Document**	**Corrective Measure Implementation (CMI)**
• USATHAMA 1979: Report 141; • NUS 1987: Interim RFI; • USATHAMA 1988, Performance Assessment/Site Investigation	EBASCO 1993	Foster Wheeler 1999	Foster Wheeler 1999	Foster Wheeler 1999	North Wind 2004

2.4 CLOSURE ACTIVITIES

The 1999 Foster Wheeler CMS established the following controls:

1. Site control – fencing and posting of warning signs to restrict entry and activity at the site is complete.
2. Form D TEAD-S Excavation Permit process shall be enforced.

3. Land use restriction (deed restriction) – restrictions to prevent shallow groundwater use and future development has not been implemented.

2.5 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

Soil samples collected during the RFI revealed the presence of arsenic and low concentrations of two agent breakdown products (ABPs), methylphosphonic acid (MPA) and isopropyl methylphosphonic acid (IMPA).

Groundwater samples collected during 1993 indicated the presence of methylene chloride and metals contamination. The presence of methylene chloride is likely due to contamination in the laboratory.

The results of the human health risk assessment indicate residential risk levels were not met, but that there were negligible potential health risks to industrial workers associated with exposure to SWMU 9 soils. There is no significant ecological risk at SWMU 9.

2.6 SURFACE WATER AND GROUNDWATER

There are no defined surface water features within or near SWMU 9. The general direction of surface water drainage in the area surrounding this unit is southerly toward the low portion of Rush Valley.

Groundwater quality at SWMU 9 is primarily defined as Class IA, with the western portion defined as Class II. Groundwater contours show a slight “divide” through the center of the site; groundwater within the southwest half of the SWMU flows to the south-southwest at a gradient of 0.0133 feet/foot while groundwater within the northeastern half of the SWMU flows to the south-southeast at a gradient of 0.0100 feet/foot.

Groundwater in the vicinity is not currently used for drinking water, irrigation or other purposes. The nearest potable groundwater wells (there are two) are located approximately three miles northwest (up gradient) of SWMU 9, inside the TEAD-S boundary.

Groundwater monitoring is not required for SWMU 9 (Parsons, 2012).

2.7 CLOSURE NOTIFICATIONS

Federal facilities are exempt from submitting notifications to the local zoning authority in accordance with Utah Admin. Code R315-8-7.

2.8 SECURITY REQUIREMENTS

Security features shall be maintained and inspected throughout the post-closure care period.

The following security conditions have been implemented at SWMU 9:

Signs are present warning against unauthorized entry. This SWMU is fenced and contact with contamination is not expected during normal Facility operations.

The security features (i.e., posted warning signs) will be inspected according to the frequency in Module VI, Condition 2.2. The Permittee shall report to the Director any decrease of TEAD-S Base Security, which could affect the security conditions as applicable to SWMU 9.

Damaged or missing security features shall be noted in the inspection checklist. Repairs shall be completed as soon as practicable after the problem is discovered, in compliance with Utah Admin. Code R3l5-8-2.6(c).

3.0 POST-CLOSURE OPERATIONS AND INSPECTIONS

3.1 INTRODUCTION

SWMU 9 post closure care shall be in accordance with the Module VI. To ensure that the area is not reused or developed for residential purposes, periodic site inspections and a biennial post-closure report are required. Removal and reuse of soil from this site shall not be allowed unless approved by both the TEAD-S Environmental Office (EO) in accordance with Condition VI.H.3. and the Director.

3.2 ROUTINE SITE INSPECTIONS

During the Post-Closure period, general inspections of the SWMU 9 site shall be conducted as required by Module VI annually by November 1st to ensure the site remains under industrial use. Any modifications to the frequency of inspections shall be in accordance with Condition I.D.3.

Site inspections consist of a complete walkthrough and visual inspection of the areas. A general site inspection checklist for industrial sites is included in Module VI as Form A. Completed inspection forms shall be filed with the TEAD-S EO as part of the Facility Operating Record.

At a minimum, the site inspector shall have a radio or phone and a First Aid kit available during inspections.

3.3 INSPECTION FOLLOW-UP

The EO shall notify the appropriate personnel to implement corrective action as needed. Corrective action shall be initiated as soon as practical after identifying a problem or as directed by the Permittee. If corrective action is required a technical plan shall be prepared to summarize the problem, the potential impacts, the proposed plan for action and the time-frame in which corrective action shall be implemented as required by Module V and Module VI. This plan requires Director approval prior to implementing corrective action.

3.4 NON-COMPLIANCE REPORTING

Notifications of any type of non-compliance with any condition of this Permit shall be submitted as required by Condition V.L.4.

3.5 BIENNIAL POST-CLOSURE REPORT

In accordance with Utah Admin. Code R315-3-3.1(l) (9), a Biennial Post-Closure Report shall be prepared for all SWMUs undergoing post-closure care by March 1, of the reporting year. The SWMU 9, the Biennial Post-Closure Report shall include, at a minimum, the following:

• General site description and conditions, and
• Inspection records.

3.6 REQUIRED SUBMITTALS

Biennial Post-Closure Reports shall be submitted to the Director no later than March, of the year the report is due. Reporting years are even numbered years beginning with March 2012, for the duration of the Post-Closure Monitoring Period.

3.6.1 Non-Compliance Reporting:

- The Permittee shall notify the Director orally within 24-hours of any noncompliance that may endanger public drinking water supplies or human health or the environment.

- The Permittee shall notify the Director in writing within five days of any non-compliance which may endanger public drinking water supplies or human health or the environment including evidence of groundwater contamination, significant data quality issues. The Permittee shall notify the Director in writing within 15-days of any noncompliance which does not endanger public drinking water supplies or human health or the environment.

4.0 POST-CLOSURE CERTIFICATION

No later than 60 days after post-closure activities are completed and approved by the Director, the Permittee shall submit a certification to the Director, signed by the Permittee and an independent professional engineer registered in the State of Utah, stating why post-closure care is no longer needed.

5.0 REFERENCES

Deseret Chemical Depot 2012- Evaluation of Potential for Migration of Contaminants to Groundwater at Solid Waste Management Unit (SWMU) 9. July.

Division of Solid and Hazardous Waste (DSHW), 2001. *Administrative Rules for Cleanup Action and Risk-Based Closure Standards*. Utah Department of Environmental Quality. R315-101, Utah Administrative Code.

EBASCO, 1993. *Tooele Army Depot – South Area Suspected Releases Unit RCRA Facility Investigation – Phase I Revised Final Report.* July

Foster Wheeler 1999. *Deseret Chemical Depot Suspected Releases Units RCRA Facility Investigation, Phase II Group 2 SWMUs (SWMUs 3, 5, 8, 9, 30, and 31).*

Foster Wheeler, 1999. *Deseret Chemical Depot Suspected Releases Units RCRA Corrective Measures, Phase II Group 2 SWMUs (SWMUs 3, 5, 8, 9, 30, and 31).*

North Wind 2004 - Corrective Measure Implementation

NUS Corporation (NUS), 1987. *Interim RCRA Facility Assessment*, Tooele Army Depot South Area.

Parsons, 2013. *Final Hydrogeological Assessment and Recommendations Report*, Deseret Chemical Depot. July.

United States Army Toxics and Hazardous Materials Agency (USATHAMA), 1979. *Installation Assessment of Tooele Army Depot. Report No. 141*, Aberdeen Proving Ground.

USATHAMA, 1988. *Performance Assessment/Site Investigation*, Tooele Army Depot South Area.

TOOELE ARMY DEPOT – SOUTH AREA
(TEAD-S)

MODULE VI

ATTACHMENT 2

SOLID WASTE MANAGEMENT UNIT (SWMU) 19
POST CLOSURE PLAN

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LIST OF ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
CMS	Corrective Measures Study
EO	Environmental Office
HWMU	Hazardous Waste Management Unit
PCP	Post Closure Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
TEAD	Tooele Army Depot

1.0 INTRODUCTION

The three objectives of this Post-Closure Plan (PCP) are: 1) ensure that Tooele Army Depot- South Area (TEAD-S) complies with the Permit; 2) outline the requirements needed to prevent exposure or contact with contamination left in place at this Solid Waste Management Unit (SWMU); and 3) to ensure industrial use only. To meet these objectives, this PCP provides detailed information regarding the location, regulatory criteria, and post-closure inspections at SWMU 19. Post-closure requirements shall continue for a minimum of 30 years. The post-closure care period may be extended or shortened, as deemed necessary by the Director.

In accordance with Utah Admin. CodeR315-3-2.19, the PCP shall include specific information for a closed facility. As applicable to SWMU 19, the information requirements include:

- General description of the facility,
- Description of security procedures,
- General inspection schedule,
- Preparedness and Prevention Plan,
- Facility location information (including seismic and flood plain considerations),
- Closure Plan or Closure Proposal,
- Certificate of Closure,
- Topographic map, with specific scale,
- Summary of groundwater monitoring data, and
- Identification of uppermost aquifer and interconnected aquifers.

2.0 FACILITY DESCRIPTION

The following provides a general description of SWMU 19, as required by Utah Admin. Code R315-3-2.5(b)(1).

2.1 SWMU 19 LOCATION AND HISTORY

SWMU 19 is also known as the Building 533 Foundation (Empty Drum Storage Area) and consists of the concrete foundation of the former Building 533. Site features include an adjacent liquid and dry sump in the concrete floor/foundation, abandoned railroad tracks, and a septic tank. Building 533 was demolished by the Army in 1992.

SWMU 19 was investigated under a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) in 1992 (Ebasco). Volatile organic compounds (VOCs) were identified in sufficient concentrations to warrant a Phase II RFI. The Phase II RFI was conducted in 1994, 1995, and 1998 by SAIC that included soil gas surveys, sampling of the septic tanks and groundwater sampling. The results of the Phase II RFI were consistent with the results of the Phase I RFI showing soil gas with fuel-related VOCs and chlorinated solvents. A Corrective Measure Study (CMS) was conducted by URS-Dames and Moore in 2002; the CMS only evaluated site management measures. An additional soil gas survey was conducted in 2011 (Parsons) with results showing exceedances for trichloroethylene and chloroform. Follow up work was conducted in 2013 (Parsons) that consisted of soil borings and installation and

sampling of a new groundwater well. The results of the 2013 Parsons work demonstrated the site met industrial closure.

2.2 PAST OPERATIONS

Building 533 was originally used for railroad car maintenance and later for storage of empty drums and other materials. The SWMU 19 area is currently used for storage of recyclable materials.

2.3 PREVIOUS INVESTIGATIONS DOCUMENTATION

Phase I RFI	Phase II RFI	Phase II-A RFI	CMS	Soil Gas	RFI Addendum
Ebasco (1995)	SAIC (2001)	SAIC (2001)	URS (2002)	Parsons (2011)	Parsons (2014)

2.4 CLOSURE ACTIVITIES

The 2014 Phase II RFI Addendum (Parsons, 2014) established the following controls:

1. Form D TEAD-S Excavation Permit process shall be enforced.
2. Industrial closure with no groundwater monitoring.

2.5 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

The results of the risk assessment from the Phase II RFI Addendum show that the site did not meet risk-based levels for residential receptors but that risk levels are met for industrial workers. The primary pathway driving risk is inhalation of vapors migrating from soil to indoor air. No pathways were identified as complete for ecological receptors due to the industrial setting of the area.

2.6 SURFACE WATER AND GROUNDWATER

There is no surface water at this site. Groundwater sampling showed no chemicals were detected in the new source area well (Parsons, 2014). A thick clay unit (greater than 120 feet) also exists between the sump sources area and the first water-bearing zone, preventing migration of VOCs detected in subsurface soils down to groundwater. No groundwater monitoring was proposed for this site.

2.7 CLOSURE NOTIFICATIONS

Federal facilities are exempt from submitting notifications to the local zoning authority in accordance with Utah Admin. Code R315-8-7.

2.8 SECURITY REQUIREMENTS

Based on the results from the human health risk assessment, only management measures are required at SWMU 19.

3.0 **POST-CLOSURE OPERATIONS AND INSPECTIONS**

3.1 INTRODUCTION

SWMU 19 post closure care shall be in accordance with Module VI. To ensure that the area is not reused or developed for residential purposes, periodic site inspections and a biennial post-closure report are required. Removal and reuse of soil from this site shall not be allowed unless approved by both the TEAD-S Environmental Office (EO) in accordance with Condition VI.H.3. and the Director; removal and reuse of the soil associated with the soil pile removal is prohibited unless part of the remediation process.

3.2 ROUTINE SITE INSPECTIONS

During the Post-Closure period, general inspections of the SWMU 19 site shall be conducted as required by Module VI annually by November 1st to ensure the site remains under industrial use. Any modifications to the frequency of inspections shall be in accordance with Condition I.D.3.

Site inspections consist of a complete walkthrough and visual inspection of the areas. A general site inspection checklist for industrial sites is included in Module VI as Form A. Completed inspection forms shall be filed with the TEAD-S EO as part of the Facility Operating Record.

At a minimum, the site inspector shall have a radio or phone and a First Aid kit available during inspections.

3.3 INSPECTION FOLLOW-UP

The EO shall notify the appropriate personnel to implement corrective action as needed. Corrective action shall be initiated as soon as practical after identifying a problem, or as directed by the Permittee. If corrective action is required a technical plan shall be prepared to summarize the problem, the potential impacts, the proposed plan for action, and the time-frame in which corrective action shall be implemented as required by Module V and Module VI. This plan requires Director approval prior to implementing corrective action.

3.4 NON-COMPLIANCE REPORTING

Notifications of any type of non-compliance with any condition of this Permit shall be submitted as required by Condition V.L.4.

3.5 BIENNIAL POST-CLOSURE REPORT

The Permittee shall submit in accordance with Utah Admin. Code R315-3-3.1(l)(9), a Biennial Post-Closure Report shall be prepared for all SWMUs undergoing post-closure care by March 1, of the reporting year. The SWMU 19, the Biennial Post-Closure Report shall include, at a minimum, the following:

- General site description and conditions, and
- Inspection records.

3.6 REQUIRED SUBMITTALS

Biennial Post-Closure Reports shall be submitted to the Director no later than March, of the year the report is due.

3.6.1 Non-Compliance Reporting:

- The Permittee shall notify the Director orally within 24 hours of any noncompliance that may endanger public drinking water supplies or human health or the environment.

- The Permittee shall notify the Director in writing within five days of any non-compliance, which may endanger public drinking water supplies or human health or the environment including evidence of groundwater contamination, significant data quality issues. The Facility shall notify the Director in writing within 15-days of any noncompliance which does not endanger public drinking water supplies or human health or the environment.

4.0 POST-CLOSURE CERTIFICATION

No later than 60 days after post-closure period has been completed, the Permittee shall submit a certification to the Director, signed by the Permittee and an independent professional engineer registered in the State of Utah, stating why post-closure care is no longer needed.

5.0 REFERENCES

Division of Solid and Hazardous Waste (DSHW), 2001. *Administrative Rules for Cleanup Action and Risk-Based Closure Standards*. Utah Department of Environmental Quality. R315-101, Utah Administrative Code.

Ebasco, 1993. *RCRA Facility Investigation – Phase I Suspected Release Units, Revised Final.* Deseret Chemical Depot, Stockton, Utah. July.

Parsons, 2001. *Final Completion report for Soil Gas Survey at SWMU 19.* August.

Parsons, 2014. *Final RCRA Facility Investigation Addendum Report for Solid Waste Management Unit 19.* January.

SAIC, 2011. *Final Phase II RCRA RFI Report, Group 3 Suspected Releases SWMUs, Volume 1.* August.

URS, 2002. *Final Corrective Measures Study SWMU 19 – Building 533 Foundations (Empty Drum Storage Area) group 3 Suspected Release SWMUs.* July.

TOOELE ARMY DEPOT – SOUTH AREA
(TEAD-S)

MODULE VI

ATTACHMENT 3

SOLID WASTE MANAGEMENT UNIT (SWMU) 33
POST CLOSURE PLAN

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LIST OF ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
CMS	Corrective Measures Study
EO	Environmental Office
HWMU	Hazardous Waste Management Unit
PCP	Post Closure Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
TEAD	Tooele Army Depot
XRF	X-ray fluorescence

1.0 INTRODUCTION

The three objectives of this Post-Closure Plan (PCP) are: 1) ensure that Tooele Army Depot- South Area (TEAD-S) complies with the Permit; 2) outline the requirements needed to prevent exposure or contact with contamination left in place at this Solid Waste Management Unit (SWMU); and 3) to ensure industrial use only. To meet these objectives, this PCP provides detailed information regarding the location, regulatory criteria, and post-closure inspections at SWMU 33. Post-closure requirements shall continue for a minimum of 30 years. The post-closure care period may be extended or shortened, as deemed necessary by the Director.

In accordance with Utah Admin. Code R315-3-2.19, the PCP shall include specific information for a closed facility. As applicable to SWMU 33, the information requirements include:

- General description of the facility,
- Description of security procedures,
- General inspection schedule,
- Preparedness and Prevention Plan,
- Facility location information (including seismic and flood plain considerations),
- Closure Plan or Closure Proposal,
- Certificate of Closure,
- Topographic map, with specific scale,
- Summary of groundwater monitoring data, and
- Identification of uppermost aquifer and interconnected aquifers.

2.0 FACILITY DESCRIPTION

The following provides a general description of SWMU 33, as required by Utah Admin. Code R315-3-2.5(b)(1).

2.1 SWMU 33 LOCATION AND HISTORY

SWMU 33 is associated with Building 536 and is located in the north-central part of the Facility. Building 536 was the old CAMDS salt storage building. This building has been investigated as a Hazardous Waste Management Unit (HWMU) and closure documentation will be provided separately. The land outside of Building 536 is associated with the SWMU.

SWMU 33 was investigated under a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) with results provided in the Interim Final RFI report (SAIC, 2001). Under the RFI, the outside areas consisted of SWMU 33B and SWMU 33C. Area B is considered all of the soil surrounding Building 536 and extending north/northeast to Blume Street. Area C was identified as a drainage swale to the southeast of Building 536. The RFI risk assessment concluded that SWMUs 33B and 33C met industrial risk and could be closed with controls.

2.2 PAST OPERATIONS

The Building 536 exterior site is characterized by unpaved soil covered with sparse vegetation, including grasses, weeds, and rabbit brush. It is relatively flat, but slopes very gradually from the northeast to the

southwest. According to the Phase II RFI Report (SAIC, 2001), no materials are stored at the Building 536 Exterior Site.

2.3 PREVIOUS INVESTIGATIONS DOCUMENTATION

Phase II RFI	Phase IIA RFI	Phase IIB RFI	CMS	Decision Document	Corrective Measure Implementation (CMI)
SAIC 1994 to 1995 (SAIC, 2001)	SAIC 1998 to 1999 (SAIC, 2001)	SAIC 2000 (SAIC, 2001)	URS, 2002	URS, 2002	DCD, 2013

2.4 CLOSURE ACTIVITIES

The 2002 URS CMS established the following controls:

1. The Form D TEAD-S Excavation Permit process shall be enforced.
2. Land use restriction (deed restriction) – restrictions to prevent shallow groundwater use and future development has not been implemented.

2.5 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

A re-evaluation of SWMU 33B and C was conducted in 2013 in conjunction with the State of Utah. Metals were evaluated using a handheld X-ray fluorescence (XRF) detector. The results of the XRF survey confirmed that both areas meet criteria for industrial closure as originally presented in the Phase II RFI.

However, the soil pile outside the building is an isolated hot spot. In order to ensure overall protection of future workers at this area, the Permittee recommends that when contracting and funding become available, this soil pile be removed and disposed of at an appropriate facility. As it is unclear when this action may occur, closure of SWMU 33 is restricted to industrial use with special control for the soil pile.

2.6 SURFACE WATER AND GROUNDWATER

Groundwater monitoring data was not collected at SWMU 33. The RFI included a chemical transport model to determine if the contaminates identified in the SWMU 33 soil could potentially reach the groundwater table. The model did not find any contaminates that could affect groundwater and did not include a quantitative risk assessment for groundwater at SWMU 33 as a consequence.

2.7 CLOSURE NOTIFICATIONS

Federal facilities are exempt from submitting notifications to the local zoning authority in accordance with Utah Admin. Code R315-8-7.

2.8 SECURITY REQUIREMENTS

Based on the results from the Human Health Risk Assessment, only management measures are required at SWMU 33.

3.0 **POST-CLOSURE OPERATIONS AND INSPECTIONS**

3.1 INTRODUCTION

SWMU 33 post closure care shall be in accordance with Module VI. To ensure that the area is not reused or developed for residential purposes, periodic site inspections and a biennial post-closure report shall be required. Removal and reuse of soil from this site shall not be allowed unless approved by both the TEAD-S Environmental Office (EO) in accordance with Condition VI.H.3. and the Director; removal and reuse of the soil associated with the soil pile removal is prohibited unless part of the remediation process.

3.2 ROUTINE SITE INSPECTIONS

During the Post-Closure period, general inspections of the SWMU 33 site shall be conducted as required by Module VI annually by November 1st to ensure the site remains under industrial use. Any modifications to the frequency of inspections shall be in accordance with Condition I.D.3.

Site inspections shall consist of a complete walkthrough and visual inspection of the areas. A general site inspection checklist for industrial sites is included in Module VI as Form A. Completed inspection forms shall be filed with the TEAD-S EO as part of the Facility Operating Record.

At a minimum, the site inspector shall have a radio or phone and a First Aid kit available during inspections.

3.3 INSPECTION FOLLOW-UP

The EO shall notify the appropriate personnel to implement corrective action as needed. Corrective action shall be initiated as soon as practical after identifying a problem or as directed by the Permittee. If corrective action is required a technical plan shall be prepared to summarize the problem, the potential impacts, the proposed plan for action and the time-frame in which corrective action shall be implemented as required by Module V and Module VI. This plan requires Director approval prior to implementing corrective action.

3.4 NON-COMPLIANCE REPORTING

Notifications of any type of non-compliance with any condition of this Permit shall be submitted as required by Condition V.L.4.

3.5 BIENNIAL POST-CLOSURE REPORT

The Permittee shall submit in accordance with Utah Admin. Code R315-3-3.1(l)(9), a Biennial Post-Closure Report for all SWMUs undergoing post-closure care by March 1, of the reporting year. The SWMU 33, the Biennial Post-Closure Report shall include, at a minimum, the following:

- General site description and conditions, and
- Inspection records.

3.6 REQUIRED SUBMITTALS

Biennial Post-Closure Reports shall be submitted to the Director no later than March, of the year the report is due. Reporting years are even numbered years beginning with March 2012, for the duration of the Post-Closure Monitoring Period.

3.6.1 Non-Compliance Reporting:

- The Permittee shall notify the Director orally within 24-hour concerning the noncompliance that may endanger public drinking water supplies or human health or the environment.

- The Permittee shall notify the Director in writing within five days of any non-compliance which may endanger public drinking water supplies or human health or the environment including evidence of groundwater contamination, significant data quality issues. The Permittee shall notify the Director in writing within 15-daysof any noncompliance which does not endanger public drinking water supplies or human health or the environment.

4.0 POST-CLOSURE CERTIFICATION

No later than 60 days after post-closure activities are completed and approved by the Director, the Permittee shall submit a certification to the Director, signed by the Permittee and an independent professional engineer registered in the State of Utah, stating why post-closure care is no longer needed.

5.0 REFERENCES

Division of Solid and Hazardous Waste (DSHW), 2001. *Administrative Rules for Cleanup Action and Risk-Based Closure Standards*. Utah Department of Environmental Quality. R315-101, Utah Administrative Code.

Ebasco, 1993. *RCRA Facility Investigation – Phase I Suspected Release Units, Revised Final*. Deseret Chemical Depot, Stockton, Utah. July.

Parsons, 2013. *Final Hydrogeological Assessment and Recommendations Report*. July.

SAIC, 2001. *Final Phase II RCRA RFI Report, Group 3 Suspected Releases SWMUs, Volume 1*. August.

URS, 2002. *Final Corrective Measures Study SWMU 19 – Building 533 Foundations (Empty Drum Storage Area) group 3 Suspected Release SWMUs.* July.

Deseret Chemical Depot, 2013. *Final Evaluation of Solid Waste Management Unit 33 to Support Closure, Tooele Army Depot South Area.* July 2013

TOOELE ARMY DEPOT – SOUTH AREA
(TEAD-S)

MODULE VI

ATTACHMENT 4

SOLID WASTE MANAGEMENT UNIT (SWMU) 28
POST CLOSURE PLAN

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Tables

LIST OF ACRONYMNS AND ABBREVIATIONS

bgs	below ground surface
CFR	Code of Federal Regulations
CMS	Corrective Measures Study
DCD	Deseret Chemical Depot
EO	Environmental Office
ft	feet
PA/SI	Preliminary Assessment / Site Investigation
PCP	Post Closure Plan
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
TEAD-S	Tooele Army Depot South Area

1.0 INTRODUCTION

The three objectives of this Post-Closure Plan (PCP) are: 1) ensure that Tooele Army Depot- South Area (TEAD-S) complies with the Permit; 2) outline the requirements needed to prevent exposure or contact with contamination left in place at this Solid Waste Management Unit (SWMU); and 3) to ensure industrial use only. To meet these objectives, this PCP provides detailed information regarding the location, regulatory criteria, and post-closure inspections at SWMU 28. Post-closure requirements shall continue for a minimum of 30 years. The post-closure care period may be extended or shortened, as deemed necessary by the Director.

In accordance with Utah Admin. Code R315-3-2.19, the PCP shall include specific information for a closed facility. As applicable to SWMU 28, the information requirements shall include:

- General description of the facility,
- Description of security procedures,
- General inspection schedule,
- Preparedness and Prevention Plan,
- Facility location information (including seismic and flood plain considerations),
- Closure Plan or Closure Proposal,
- Certificate of Closure,
- Topographic map, with specific scale,
- Summary of groundwater monitoring data, and
- Identification of uppermost aquifer and interconnected aquifers.

2.0 FACILITY DESCRIPTION

The following provides a general description of SWMU 28, as required by Utah Admin. Code R315-3-2.5(b)(1).

2.1 SWMU 28 LOCATION AND HISTORY

SWMU 28 is an inactive (abandoned) landfill encompassing approximately 0.3 acres, and is located approximately 1,000 feet (ft) southwest of the Administrative Area in the northeast region of the Facility (Figure 2.3; Inset 1). The landfill was used between 1963 and 1972 for the disposal of solid waste, paper, and building debris. Reportedly, no noxious or hazardous materials were disposed of at this site, and the landfill was filled to grade and revegetated in 1972, although details of the cover/cap are unknown (Ebasco, 1993).

Based on test pitting conducted by the Permittee in October 2012, the thickness of overburden at the landfill ranges from approximately one to two ft, and buried debris is present to a maximum depth of approximately 11 to 14 ft below ground surface (bgs). No landfill liner was observed the during the test pit operations; as such, the landfill at SWMU 28 was likely an unlined disposal area.

A range fire in 2012 burned and removed all vegetation at the SWMU 28 site and exposed the landfill cover materials. The cover, comprised of gravel and cobble rich materials, is similar to the fill/cover

material commonly seen at the Facility sites and is therefore believed to have originated from the installation's primary borrow pit.

2.2 PAST OPERATIONS

Previous investigations at SWMU 28 include a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA), Preliminary Assessment/Site Investigation (PA/SI), Phase I RCRA Facility Investigation (RFI) field investigation, 2012 test pit investigation, and a RCRA RFI Addendum in 2012. The Phase I RFI only included the installation and sampling of three groundwater monitoring wells. No soil or soil gas samples were collected during the Phase I RFI or during the test pitting operation conducted in 2012. The scope of the RFI addendum included completion of the nature and extent of potential contamination within and around the landfill and included additional sampling of surface and subsurface soils and soil gas (active). The conclusions of the RFI addendum were that the site met industrial use and risks, groundwater monitoring was not required.

2.3 PREVIOUS INVESTIGATIONS DOCUMENTATION

RFA	**PA/SI**	**Phase I RFI**	**Phase IIA RFI**	**Phase IIB RFI (Addendum)**
NUS Corp 1987	EA Engineering Science & Tech inc 1988	Ebasco 1992	DCD[a] 2012 Test Trench Investigation	Parsons, 2013a
[a] Deseret Chemical Depot (now the TEAD-S)				

2.4 CLOSURE ACTIVITIES

Based on the RFI Addendum (Parsons, 2013a) the following controls are to be established:

1. Form D TEAD-S Excavation Permit process shall be enforced.
2. Land use restriction – restrictions to prevent shallow groundwater use and future development.

2.5 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

A risk assessment was conducted using residential (hypothetical) and industrial (actual) land use exposure scenarios to determine potential risks and hazards to receptors from exposure to contaminants at SWMU 28. The carcinogenic risks estimated for residents exceeded the point of departure of 1E-06. This risk estimate is almost entirely due to assumed exposures to benzo(a)pyrene in soils and assumed inhalation exposures to chloroform in indoor air from soil gas. However, the risk estimates for industrial and construction workers are within the USEPA (1990) risk management range of 1E-06 to 1E-04. The noncarcinogenic hazard index estimated for residents, industrial workers, and construction workers are less than or equal to 1.0, the benchmark level of concern for noncarcinogenic effects. An ecological risk assessment was also conducted and no chemicals of concern were identified that may pose potential hazards to populations of ecological receptors at the site. Soil-to-groundwater analysis also indicates that future impacts to groundwater from chemicals in soil are not expected. Therefore, based on the results from the soil-to-groundwater evaluation, detections in soils are not present at concentrations that will significantly impact groundwater in the future and degradation of natural resources is not likely.

2.6 SURFACE WATER AND GROUNDWATER

No surface water is present at SWMU 28. Previous investigations at SWMU 28 were limited to the installation and sampling of three groundwater monitoring wells. Periodic sampling of these wells over the last 20 years has shown no impacts to site groundwater. The RFI addendum (Parsons, 2013a) recommended the discontinuation of groundwater monitoring for this site.

2.7 CLOSURE NOTIFICATIONS

Federal facilities are exempt from submitting notifications to the local zoning authority in accordance with Utah Admin. Code R315-8-7.

2.8 SECURITY REQUIREMENTS

Based on the results from the human health risk assessment, only land use management measures are required at SWMU 28.

3.0 **POST-CLOSURE OPERATIONS AND INSPECTIONS**

3.1 INTRODUCTION

SWMU 28 post closure care shall be in accordance with Module VI. To ensure that the area is not reused or developed for residential purposes, periodic site inspections and a biennial post-closure report are required. Removal and reuse of soil from this site shall not be allowed unless approved by both the TEAD-S Environmental Office (EO) in accordance with Condition VI.H.3. and the Director; removal and reuse of the soil associated with the soil pile removal is prohibited unless part of the remediation process.

3.2 ROUTINE SITE INSPECTIONS

During the Post-Closure period, general inspections of the SWMU 28 site shall be conducted as required by Module VI annually by November 1st to ensure the site remains under industrial use. Any modifications to the frequency of inspections shall be in accordance with Condition I.D.3.

Site inspections shall consist of a complete walkthrough and visual inspection of the areas. A general site inspection checklist for industrial sites is included in Module VI as Form A. Completed inspection forms shall be filed with the TEAD-S EO as part of the Facility Operating Record.

At a minimum, the site inspector shall have a radio or phone and a First Aid kit available during inspections.

3.3 INSPECTION FOLLOW-UP

The EO shall notify the appropriate personnel to implement corrective action as needed. Corrective action shall be initiated as soon as practical after identifying a problem, or as directed by the Permittee. If corrective action is required a technical plan shall be prepared to summarize the problem, the potential impacts, the proposed plan for action, and the time-frame in which corrective action shall be implemented as required by Module V and Module VI. This plan requires Director approval prior to implementing corrective action.

3.4 NON-COMPLIANCE REPORTING

Notifications of any type of non-compliance with any condition of this Permit shall be submitted as required by Condition V.L.4.

3.5 BIENNIAL POST-CLOSURE REPORT

The Permittee shall submit in accordance with Utah Admin. Code R315-3-3.1(l) (9), a Biennial Post-Closure Report shall be prepared for all SWMUs undergoing post-closure care by March 1, of the reporting year. The SWMU 28, the Biennial Post-Closure Report shall include, at a minimum, the following:

- General site description and conditions, and
- Inspection records.

3.6 REQUIRED SUBMITTALS

Biennial Post-Closure Reports shall be submitted to the Director no later than March, of the year the report is due. Reporting years are even numbered years beginning with March 2012, for the duration of the Post-Closure Monitoring Period.

3.6.1 Non-Compliance Reporting:

- The Permittee shall notify the Director orally within 24-hours of any noncompliance, which may endanger public drinking water supplies or human health or the environment.

- The Permittee shall notify the Director in writing within five days of any non-compliance, which may endanger public drinking water supplies or human health or the environment including evidence of groundwater contamination, significant data quality issues, or a request for reduced monitoring frequency. The Permittee shall notify the Director in writing within 15-days of any noncompliance which does not endanger public drinking water supplies or human health or the environment.

4.0 POST-CLOSURE CERTIFICATION

No later than 60 days after post-closure activities are completed and approved by the Director, the Permittee shall submit a certification to the Director, signed by the Permittee and an independent professional engineer registered in the State of Utah, stating why post-closure care is no longer needed.

5.0 REFERENCES

Division of Solid and Hazardous Waste (DSHW), 2001. *Administrative Rules for Cleanup Action and Risk-Based Closure Standards*. Utah Department of Environmental Quality. R315-101, Utah Administrative Code.

Analytical Quality Solutions (AQS), 2013. *Final Risk Assumptions Document Solid Waste Management Units and Other Corrective Action Sites*. Deseret Chemical Depot, Tooele, Utah. Revision 1. January.

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Ebasco, 1993. *RCRA Facility Investigation – Phase I, Suspected Release Units, Revised Final.* Deseret Chemical Depot (DCD), Stockton UT. July.

Gardner, P.M., and Kirby, S.M., 2011. *Hydrogeologic and Geochemical Characterization of Groundwater Resources in Rush Valley, Tooele County, Utah*: U.S. Geological Survey Scientific Investigations Report 2011–5068, 68 p.

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Parsons, 2013b. *SWMU 28 Final Work Plan Addendum- Plan for Additional Subsurface Soil Sampling*. Tooele Army Depot-South Area, Utah. September.

Parsons, 2013c. *Final Hydrogeological Assessment and Recommendations Report, Deseret Chemical Depot, Utah*. July.

U.S. Army Corps of Engineers (USACE), 2005. *Environmental Quality-Guidance for Evaluating Performance-Based Chemical Data*. EM-200-1-10. June.

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Emergency and Remedial Response Washington, D.C. OSWER 9285.701A. EPA/540/1-89/002.

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USEPA, 1992a. *Guidance for Data Usability in Risk Assessment (Part A) Final*. Publication Number 9285.7-09A. April.

Tooele Army Depot-South Area
Attachment 1
Waste Analysis Plan

Waste Analysis Plan

1.0 Background and Scope [Utah Admin. Code R315-3-2.5(b)(3), Utah Admin. Code R315-13-1;]

1.1 This attachment contains the Tooele Army Depot-South Area (TEAD-S or Facility) Waste Analysis Plan (WAP). Components of the WAP include analytical parameters and the rationale for their selection, test methods, sampling methods, frequency of analysis, and additional requirements for reactive, ignitable, or incompatible wastes, and for wastes generated offsite.

2.0 Analytical Parameters and Rationale [Utah Admin. Code R315-8-2.4, Utah Admin. Code R315-5-1.11]

2.1 The Permittee shall adequately characterize wastes to ensure safe storage and handling and compliance with both Land Disposal Restriction (LDR) criteria in Utah Admin. Code R315-13-1and the waste acceptance criteria of the Treatment, Storage, and Disposal Facility (TSDF) receiving the waste.

2.2 Waste shall be characterized based on either process knowledge or laboratory analysis. The Permittee shall first determine if the waste is a listed waste in Utah Admin. Code R315-2-10. If the waste is not listed, the Permittee shall determine if the waste exhibits a characteristic identified in Utah Admin. Code R315-2-9. The extent of sampling and analysis needed to characterize a waste stream shall be based on the completeness of process knowledge, anticipated end uses of the characterization data, anticipated disposition of the wastes, and regulatory requirements. Table 1-1-5, Sampling Methods and Rationale by Waste Stream, describes analyses required to characterize each of the waste streams listed in Section 4 in this Attachment, as well as the rationale for each analysis selected. The analytical methods applied to specific wastes may be modified by the Permittee, based on process knowledge and improvements in analysis or detection based on approval from the Director of the Division of Waste Management and Radiation Control (Director), in accordance with Utah Admin. Code R315-3-4.3.

2.3 The Permittee may use engineering judgment and knowledge of the production process and waste characteristics to decide whether or not the waste is a hazardous waste in accordance with paragraph 2.2. Existing published data which includes Safety Data Sheet (SDS) or analytical data on the hazardous waste, may be used to satisfy the waste analysis requirements of Utah Admin. Code R315-8-2.4. Process knowledge of each waste stream is summarized in Section 4 of this Attachment.

2.4 Wastes shall be stored and managed by the Permittee in authorized storage areas. Locations of permitted storage areas are shown on Fig. 6-1, Attachment 6 (General Facility Description).

2.5 The Permittee shall use permitted storage igloos to store, Recovered Chemical Weapons Material, waste military munitions and components, and hazardous wastes with and without free liquids. Waste explosives intended for open burning/open detonation (OB/OD) shall be stored in the OB/OD Conex.

3.0 Chemical And Physical Analysis of Wastes [Utah Admin. Code R315-3-2.5]

3.1 Hazardous wastes managed at the Facility shall consist of Recovered Chemical Weapons Materials, waste military munitions and components, as well as agent-related and non-agent-related wastes. The following conditions describe the waste codes applicable to hazardous wastes stored at the Facility. The Permittee shall use waste stream analyses and generator process knowledge for waste code designations.

3.2 The Permittee shall list the waste codes associated with each hazardous waste stream stored at the Facility and summarize the basis for each designation in Table 1-1-1, RCRA Hazardous Waste Designation and Rationale. The rationale for designation is described in detail in the following sections. Waste streams are listed by site in Table 1-1-2, Hazardous Waste Streams and Storage Areas.

4.0 Containerized Waste [Utah Admin. Code R315-8-9.3, Utah Admin. Code R315-8-9.6]

4.1 Recovered Chemical Weapons Materials shall be managed as a hazardous waste.

4.2.1 Residues from demilitarization, treatment and testing of military chemical agents shall be listed as F999 as defined in Utah Admin. Code R315-2-10(e)(1). Chemical agent related residues shall carry the F999 waste code. Waste chemical munitions and their residues may also contain explosive constituents (D003).

4.2.2 Nerve, military, and chemical agents shall be assigned the P999 waste code as defined in Utah Admin. Code R315-2-11(e)(1).

4.3 During hydrolysis or other degradation processes, mustard agents produce hazardous compounds. Some potential products of degradation of mustard are chloroform, 1,2-dichloroethane, hexachloroethane, tetrachloroethylene, trichloroethylene, vinyl chloride, hydrochloric acid, and thiodiglycol. Agent VX will produce several toxic products if hydrolyzed at a basic pH: ethyl methylphosphonic acid, methylphosphinic acid, diisopropyminoethylmercaptan, diethyl methylphosphonate,ethanol, and EA 2192 and EA 4196. Agent GB will hydrolyze to form hydrofluoric acid under acidic conditions, and will form isopropyl alcohol and polymers under basic conditions.

5.0 Reserved.

6.0 Reserved

7.0 Reserved

8.0 Reserved

9.0 Reserved

10.0 Reserved

11.0 <u>Agent-Related Wastes</u>

11.1 The waste code F999 shall be assigned to any waste that has come into contact with chemical agent per Utah Admin. Code R315-2-10(e)(1). Wastes shall carry all applicable

non-agent waste codes in addition to all applicable codes for agent and agent-related residues.

11.2 The various energetics contained in waste munitions shall be classified as reactive (D003) because they are composed of or contain explosives. Waste energetic materials that are contaminated with agent shall carry the D003 reactive code as well as TC metals, TC organics, and the F999.

12.0 Reserved

13.0 Non-Agent-Related Wastes

13.1 Non-agent-related wastes are generated in the administrative and warehouse areas of the Facility during environmental remediation activities, and are stored in accordance with Utah Admin. Code R315-5-3.34 pending offsite disposal at an approved TSDF. Non-agent-related wastes have not come into contact with vapor or liquid agent. Non-agent-related waste streams shall include but are not limited to:

13.1.1 Waste paint and thinners;
13.1.2 Waste solvents;
13.1.3 Waste batteries and battery acid;
13.1.4 Contaminated soils from the remediation of Solid Waste Management Units (SWMUs);
13.1.5 Monitoring well waste;
13.1.6 Used oil and engine coolant from motor vehicle maintenance;
13.1.7 Used chemical mask filters not exposed to agent;
13.1.8 Waste starter fluids;
13.1.9 Used PPE; and
13.1.10 Universal wastes such as fluorescent bulbs and batteries.

13.2 Hazardous waste determination shall be based on process knowledge and available SDSs and may be supplemented with analytical data, which identify the hazardous characteristics of the waste. Sampling shall be required to aid in characterization, such as when waste characteristics cannot be determined through generator knowledge, SDSs, or other preexisting information sources.

13.3 All hazardous wastes in containers shall be managed in accordance with Utah Admin. Code R315-8-9 regulations, including compatibility of waste with respective containers and secondary containment for containers storing waste with free liquids and in compliance with Attachment 12(Container Management).

14.0 Reserved

15.0 Reserved

16.0 Reserved

17.0 Reserved

18.0 Reserved

19.0 Reserved

20.0 Reserved

21.0 Test Methods [Utah Admin. Code R315-8-2.4]

21.1 Analytical test methods used to characterize wastes shall meet the minimum requirements specified in USEPA SW-846 (most recent approved edition or update) "Test Methods for the Evaluation of Solid, Physical/ Chemical Methods" or other methods approved by the Director. Methods for anticipated parameters shall be listed in Table 1-1-5, Sampling Methods and Rationale by Waste Stream.

22.0 Sampling Methods [Utah Admin. Code R315-8-2.4]

22.1 If there is insufficient information to support characterization through generator knowledge, sampling and analysis shall be conducted. The Permittee shall, as described in the WAP, collect samples representative of a particular waste stream. The following sections identify sampling methodology, sample handling, and the documentation required when sampling hazardous waste streams.

22.2 The Permittee shall use proper sample collection procedures as well as quality control and assurance measures in obtaining a representative sample. Sampling shall be conducted using equipment specified in Table 1-1-4, Sampling Equipment. The Utah certified laboratory contracted to perform analyses shall provide sample containers compatible with the waste being sampled. Each sample shall be placed in the appropriate container, preserved, and analyzed within the timeframes specified in Table 1-1-7, Sample Containers, Preservation Methods, and Holding Times.

23.0 Frequency of Analysis [Utah Admin. Code R315-8-2.4

23.1 Table 1-1-3, Container Sampling Frequency, contains the frequency at which samples shall be collected from a waste stream and analyzed.

24.0 Additional Requirements for Wastes Generated Off Site

24.1 In some instances, the may receive hazardous waste generated offsite. In order for the hazardous waste to be accepted by the Facility, it shall meet the following requirements:

24.1.1 The waste shall have been generated by a Department of Defense (DOD) facility or a Formerly Used Defense Site (FUDS);
24.1.2 The waste shall either support the mission of the Facility or be a hazardous waste because it is agent-contaminated;
24.1.3 The waste shall be packaged to meet applicable Department of Transportation (DOT) standards and be accompanied by the appropriate manifest(s); and
24.1.4 The waste shall be approved for acceptance by the Director and follow the requirements of Utah Admin. Code R315-8-2.4.

24.2 The Permittee shall inform the generator of the waste in writing that the waste meets the acceptance requirements for the Facility and the Permittee agrees to accept the waste. A copy of the written notice will be kept by the Permittee as part of the Operating Record. A review shall be performed of the characterization of the waste shipment supplied by the

generator. The waste received shall be visually inspected at the time of arrival at the Facility to ensure container integrity and to confirm the identity of the shipped waste matches the identity designated on the accompanying manifest supplied by the generator. In the event that a discrepancy is found, the waste container causing the discrepancy shall be returned to the generator. If no discrepancies are found, the hazardous waste shipment shall be accepted and managed by the Permittee as appropriate based on waste documentation and supporting waste analysis supplied by the generator.

25.0 Additional Requirements for Ignitable, Reactive, or Incompatible Wastes [Utah Admin. Code R315-8-2.4]

25.1 The Permittee shall protect ignitable, reactive, and incompatible wastes from sources of ignition and reaction. Incompatible wastes and materials shall not be placed in the same container and shall not be stored on the same pallet as other containers storing other hazardous waste. The Permittee shall utilize DOT guidelines to ensure appropriate storage of ignitable, reactive, and incompatible wastes. Additionally, all container storage units managing ignitable or reactive hazardous waste shall be located more than 50 feet away from the Facility property line. Smoking and spark-producing devices shall not be allowed in units storing ignitable waste.

26.0 Reserved

27.0 Reserved

28.0 Land Disposal Restrictions [Utah Admin. Code R315-5-1.11, Utah Admin. Code R315-8-2.4, Utah Admin. Code R315-8-5.3, R315-13-1]

28.1 As a generator of wastes prohibited from land disposal the Permittee shall determine whether the applicable LDR treatment standards have been met for the waste and treatment residues prior to ultimate land disposal. The Permittee shall assign applicable waste codes to each waste stream managed onsite, and shall determine all applicable treatment standards or prohibition levels that may apply to each waste stream, and shall identify regulated constituents and concentrations that are present in each waste stream. The Permittee shall compare the concentrations of regulated constituents in hazardous wastes that it manages with the applicable treatment standards, and shall make a determination as to whether or not each type of waste is restricted from land disposal in its current state. The procedures to comply with LDRs and treatment standards are described in the following sections.

28.2 Waste Analysis [Utah Admin. Code R315-2-9, Utah Admin. Code R315-8-2.4, Utah Admin. Code R315-13-1]

28.2.1 The Permittee may use either generator knowledge or analytical data to characterize its waste. Initially generator knowledge may be used, which can be augmented by the methods listed in Table 1-1-6, Waste Characterization Methods.

28.2.2 The United States Army was the manufacturer of chemical agents. Table 1-1-1, RCRA Hazardous Waste Designation and Rationale, lists the wastes generated, waste characteristics, and rationales for listings. The Permittee's WAP shall describe how wastes shall be managed, including analytical methods, waste streams, and sampling methods, and also lists characteristic wastes and wastes with LDRs.

28.2.3 Spent Solvent and Dioxin Wastes [Utah Admin. Code R315-2-10, Utah Admin. Code R315-8-2.4, Utah Admin. Code R315-13-1]

28.2.3.1 The Facility generates spent solvents with waste codes F001, F002, F003, and F005, none of which contain dioxin. Characterizations of these wastesshall be based either on generator knowledge or analytical data and shall be shipped offsite to an approved TSDF for further treatment and disposal.

28.2.4 California List Wastes [Utah Admin. Code R315-8-2.4, Utah Admin. Code R315-13-1]

28.2.4.1 The Facility's inventory of California List wastes shall be limited to polychlorinated biphenyls (PCBs) found in electrical ballasts. The majority of these items contain PCB concentrations below the 50-ppm limit. However, if the waste is found to exceed the 50-ppm limit, they shall be disposed of in accordance with state and federal regulations, including notifying the TSDF of the presence of PCBs and associated concentrations in the waste in accordance with Utah Admin. Code R315-13-1.

28.2.5 Listed Wastes [Utah Admin. Code R315-2-10, Utah Admin. Code R315-13-1]

28.2.5.1 The Permittee manages multiple listed hazardous wastes that are subject to LDRs. Potential waste streams are identified in Table 1-1-2, Hazardous Waste Streams and Storage Areas.

28.2.5.2 Treatment standards for these waste streams include maximum constituent concentration levels that shall be met for each constituent with prohibition on land disposal found in Utah Admin. Code R315-13-1or the treatment of a waste with a specific technology in Utah Admin. Code R315-13-1.

28.2.6 Characteristic Wastes [Utah Admin. Code R315-2-3(d)(1), Utah Admin. Code R315-8-2.4, Utah Admin. Code R315-13-1]

28.2.6.1 The Permittee shall identify and manage all characteristic wastes as required by Utah Admin. Code. Multiple characteristic wastes are managed at the Facility. Potential waste streams are identified in Table 1-1-1.

28.2.6.2 The Permittee shall meet treatment standards for wastes with ignitable, corrosive, reactive, or toxicity characteristics as specified in Utah Admin. Code R315-13-1 prior to land disposal. Additionally, the wastes may also require treatment for any applicable universal treatment standards (UTS) identified in Utah Admin. Code R315-13-1. The majority of toxicity characteristic wastes shall be compared to the Toxicity Characteristic Leaching Procedure (TCLP) standard to determine whether treatment standards apply.

28.2.6.3 Reserved

28.2.6.4 Reserved

28.2.6.5 Reserved

28.2.6.6 Contaminated Debris [Utah Admin. Code R315-3-2.4(n), Utah Admin. Code R315-13-1]

28.2.6.6.1 The Permittee shall characterize contaminated debris generated at the Facility through either process knowledge or analytical methods to determine whether these wastes shall require further treatment prior to land disposal in accordance with Utah Admin. Code R315-13-1. Contaminated debris generated at the Facility that is treated to meet the treatment standards specified in Utah Admin. Code R315-13-1 before being shipped offsite for land disposal shall be accompanied by a certification stating that the waste does not contain listed or characteristic hazardous wastes at or above the treatment standards. Contaminated debris that contains listed or characteristic hazardous wastes shall be shipped to an approved TSDF with a certification stating that the waste needs further treatment prior to disposal.

28.2.6.7 Waste Mixtures and Wastes with Overlapping Requirements [Utah Admin. Code R315-8-2.4, Utah Admin. Code R315 13-1]

28.2.6.8. The Permittee shall characterize all waste streams using either generator or process knowledge. Further characterization shall be achieved by analytical methods, if necessary. Waste mixtures or wastes with overlapping requirements shall be identified during these processes and the receiving TSDF shall be properly notified of these multiple characteristics to ensure proper management.

28.2.6.9. Reserved

28.2.6.10. Notification, Certification, and Recordkeeping Requirements [Utah Admin. Code R315-5-2, Utah Admin. Code R315-5-4, Utah Admin. Code R315-8-5.3, Utah Admin. Code R315-13-1]

28.2.6.10.1 The Permittee shall maintain all required documentation, waste manifests, sample analyses, and any other information used to determine the disposition and characteristics of wastes managed by the Permittee.

28.2.6.11. Retention of Generator Notices and Certifications [Utah Admin. Code R315-13-1]

28.2.6.11.1 The Permittee shall maintain on site in its Operating Record copies of all notices, certifications, waste analysis data, and other documentation produced during hazardous waste generation activities in accordance with Utah Admin. Code R315-13-1. The Permittee shall supply all notices and certifications required for wastes that are sent to offsite TSDFs as required by Utah Admin. Code R315-13-1.

28.2.6.12 Reserved

28.2.6.13 Reserved

28.2.6.14 Wastes Shipped to Subtitle C Facilities [Utah Admin. Code R315-13-1]

28.2.6.14.1 The Permittee may ship certain hazardous wastes to TSDF facilities. Historical process knowledge, SDSs, and other generator knowledge may be used to characterize most of the wastes present at the Facility. Waste generated during solid waste management unit clean-ups may require more thorough analytical evaluation. If further characterization is necessary, the Permittee shall use a detailed sampling program to further characterize its wastes. These analytical methods are presented in Table 1-1-6, Waste Characterization Methods. All wastes to be shipped offsite for disposal shall be characterized through either process knowledge or analytical methods. Wastes with LDRs shall be identified, and the receiving TSDF shall be notified if the waste requires further management. The waste shall be labeled, packaged, and manifested according to Utah Admin. Code and DOT procedures.

28.2.6.15 Wastes Shipped to Subtitle D Facilities [Utah Admin. Code R315-13-1]

28.2.6.15.1 The Permittee may ship certain wastes to solid waste facilities. The Permittee shall send the required notifications and certifications to the landfill, and maintain copies in Permittee's Operating Record. If new waste streams are generated and additional notifications are required, the Permittee shall notify the receiving facility.

28.2.6.16 Recyclable Materials [Utah Admin. Code R315-13-1]

28.2.6.16.1 The Permitee may use recycling when possible to minimize waste generation. The Permittee may recycle wastes generated by maintenance activities such as used paint, oil, batteries, and antifreeze. Recycling activities shall be contracted to an appropriate offsite recycling facility.

28.2.6.17 Recordkeeping [Utah Admin. Code R315-8-5.3, Utah Admin. Code R315-13-1]

28.2.6.17.1 The Permittee may use either generator knowledge or analytical methods to determine whether LDRs apply to wastes generated onsite. TSDFs receiving wastes are notified if LDR wastes are present and if further treatment is needed. The Permittee retains all documentation of analytical results or process information used in TSDF notification as well as manifests associated with offsite waste shipments in accordance with Utah Admin. Code R315-13-1. Operating Records for the facility and its hazardous waste activities are maintained at the Facility.

28.2.6.18 Requirements Pertaining to the Storage of Restricted Wastes [Utah Admin. Code R315-13-1]

28.2.6.18.1 Wastes with prohibitions on land disposal identified in Utah Admin. Code R315-13-1may be stored in containers at the Facility in order to accumulate the quantity of hazardous waste that is necessary to facilitate proper recovery, treatment, and/or disposal of the waste. Restricted wastes may be stored at the Facility for up to one calendar year.

28.2.6.19 Restricted Wastes Stored in Containers [Utah Admin. Code R315-8-9, Utah Admin. Code R315-13-1]

28.2.6.19.1 Wastes stored in containers at the Facility that are restricted from land disposal shall be managed in compliance with the requirements of Utah Admin. Code R315-13-1including a clear demarcation of content identity and the accumulation start date.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale		
Waste Material	**RCRA Hazardous Waste Designation (Number)**	**Basis for Designation**
AGENT-RELATED WASTE		
Chemical Agents		
GA, GB, VX, mustard, or L	Utah State Waste Designation Discarded Chemical Products P999	Agents are designated as hazardous based on Utah Admin. Code.
Chemical agent-specific: GB (NaOH) VX (NaOCl) Mustard (NaOCl)	Corrosive (D002) (in some cases where pH > 12.5) F999	May be corrosive (D002) if the pH is greater than 12.5 as determined by sampling. F codes are applied as required by Utah Admin. Code.
Respirator filters	Toxicity Characteristic: Metals (D004-D011) Non-Specific Source (F999)	Respirator filters may contain small amounts of chromium and silver according to SDS information. Other metals may also be present.
Spill cleanup materials	Non-Specific source (F999) Spent Solvents (F001-F005) Toxicity Characteristic: Metals (D004-D011)	Waste codes will be applied based on generator knowledge of the spilled material.
Paint wastes	Spent solvents (F002-F005) Ignitable (D001) Toxicity Characteristic: Metals (D004-D011) Organics (D018, D035) Non-Specific Source (F999)	Waste codes shall be assigned based on SDS information for the materials used and generator knowledge of whether wastes potentially contacted chemical agents.
Broken glassware	Non-Specific Source, (F999)	Based on generator knowledge and/or air monitoring of agent contamination.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale (Continued)		
Waste Material	**RCRA Hazardous Waste Designation (Number)**	**Basis for Designation**
Agent-contaminated miscellaneous wastes	Toxic (F999) Metals (D004-D011) Solvents (F001-F005)	
Chemical agent-contaminated miscellaneous wastes	Toxicity Characteristic: Metals (D004-D011) Organics (D012-D043)	Miscellaneous wastes generated (such as packing, metal pieces, insulation, electrical components, air hoses, pallets, PPE, absorbents, plastic bags, etc.) during storage activities may be contaminated with chemical agent (3X) and shall be characterized and managed accordingly.
Battery acid and batteries	Corrosive (D002) Toxicity Characteristic: Metals (D006-D009, D011) Reactive (D003)	Battery acid is comprised of sulfuric acid (D002) and contains lead. Other batteries may contain other metals. Lithium batteries are water-reactive (D003) and ignitable (D001). Designation is by generator knowledge.
Solvents and adhesives, including solvent-based commercial products (flammable)	Ignitable (D001) Toxicity Characteristic: Solvents (D018-D043) Toxicity Characteristic: Metals (D007, D010) Spent Solvents (F001-F005) U002, U019, U044, U056, U080, U088, U117, U122, U140, U154, U165, U220, U228, U239	Designation based on generator knowledge, SDSs.
Solvents (degreasing)	Spent halogenated degreasing (F001-F005) Toxicity Characteristic: Solvents (D018, D038-D040) Metals (D004-D011) Ignitable (D001)	Based on process knowledge that metal may become mixed into degreasing solvents during use.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale (Continued)		
Waste Material	**RCRA Hazardous Waste Designation (Number)**	**Basis for Designation**
NON-AGENT-RELATED WASTE (Other waste codes may be applied based on sampling and analysis)		
Detonation residues	Reactive (D003) Toxicity Characteristic: Metals (D004-D011)	D003 based on potential explosive component residues. TC Metals based on destruction of metal components in detonations.
Fluorescent bulbs	Lead (D008) Mercury (D009)	Designation based on generator knowledge, SDSs.
Brake fluid	Ignitable (D001) Nitrobenzene (D036)	Designation based on generator knowledge, SDSs.
Hydraulic and other oils and lubricants	D005-D008 Benzene (D018) Nitrobenzene (D036) Spent solvents (F002-F005)	Designation based on generator knowledge, SDSs. TCLP solvent codes may be applied based on generator knowledge and MSDS information. F codes may be applied based on SDS information about lubricant solvents.
Paint waste (paints, thinners, stains, coatings, varnish, sealers)	Ignitable (D001) Toxicity Characteristic: Metals (D004-D011) Benzene (D018) Methyl Ethyl Ketone (D035) Tetrachloroethylene (D039) Spent solvents (F002-F005)	Paint wastes are ignitable if they contain flammable solvents, are labeled as flammable, or have SDS information showing a flash point < 140°F. TCLP metal and organic codes and F codes will be applied based on SDS information.
Waste decontamination solids (decontamination powder, decontamination kit, sodium hypochlorite, sodium hydroxide)	Ignitable (D001) Corrosive (D002) Reactive (D003)	Expired, out-of-service, unusable chemical agent decontamination powders.
Miscellaneous solvent wastes	Spent solvents (F001-F005)	Solvent waste generated from equipment maintenance, degreasing operations and waste streams generated from products used for their solvent properties. Solvent codes may be applied based on a generator's knowledge of the process.
Acids, including commercial chemical products containing acids	Corrosive (D002) Ignitable (D001) Hydrofluoric Acid (U134)	The D002 code applies to all materials with pH <2. D001 code applies to all oxidizing acids, including nitric and perchloric. Off-specification unused HF will receive a U code.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale (Continued)		
Waste Material	**RCRA Hazardous Waste Designation (Number)**	**Basis for Designation**
Diesel fuel and gasoline mixed with solvents	Ignitable (D001) Benzene (D018) Spent solvents (F001-F005) Cadmium (D006) Chromium (D007) Lead (D008)	Fuels are known to be ignitable and to contain >5 ppm benzene. Lead will be present in leaded fuels. Spent solvent codes may be applied based on a generator's knowledge of process.
Peroxides	Ignitable (D001)	Oxidizing peroxides are ignitable.
Wood preservative with pentachlorophenol	Ignitable (D001) Pentachlorophenol (D037) Discarded unused formulations containing pentachlorophenol (F027)	All waste codes are based on SDS information.
Alkaline liquids and solid hydroxide salts	Corrosive (D002)	Liquids with pH >12.5 are corrosive. Solids are not designated D002.
Zinc and other metals (powdered and whole)	Ignitable (D001) Reactive (D003) Cadmium (D006)	Most metal powders are ignitable. Some metals such as lithium, sodium, and magnesium may also be reactive when mixed with water (D003).
Ink with solvents, metals	Ignitable (D001) Barium (D005) Chromium (D007)	Inks with flammable solvents or flash points <140°F.
Hypochlorite salts and solutions/pool cleaning chemicals	Corrosive (D002) Ignitable (D001)	Some hypochlorite solutions may be pH <2 and may be oxidizers.
Creosote/asphalt mixture	Creosote (U051) Spent cresol solvent (F004)	Designation based on generator knowledge, SDSs.
Hypochlorite salts and solutions/pool cleaning chemicals	Corrosive (D002) Ignitable (D001)	Some hypochlorite solutions may be pH <2 and may be oxidizers.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale (Continued)		
Waste Material	**RCRA Hazardous Waste Designation (Number)**	**Basis for Designation**
Pyrethrin and other pesticides	Ignitable (D001) 2,4-D and salts (U240) Spent solvents (F002-F005) Organics (D012-D017, D020, D037, D041-D042)	Waste codes based on chemical inventories and SDS information. Pesticides with flammable solvents will be designated D001.
Adhesives/ Cements	Ignitable (D001) Spent solvents (F002-F005)	Adhesives with flammable solvents will be designated D001. Spent solvent codes are based on SDS information.
Fuel/gas cylinders	Ignitable (D001)	D001 applies to flammable gases such as propane and butane.
Oxygen	Ignitable (D001)	Oxygen is an oxidizer.
Welding rods	Chromium (D007)	SDS information for some welding rods indicates >5-ppm chromium.
Soldering flux and paste	Corrosive (D002) Ignitable (D001)	Waste codes are based on generator knowledge that most fluxes are acidic (or simple pH tests) and SDS information on flash points of solvents.
Conversion pads	Silver (D011)	V to G conversion pads are composed of silver fluoride.
Ballasts	Lead (D008)	SDS information shows that some ballasts contain >5-ppm lead and polychlorinated biphenyls.

Table 1-1-2: Hazardous Waste Streams and Storage Areas		
Facility	**Function**	**Waste Streams**
Chemical Storage Igloos	Hazardous Waste Storage	Hazardous waste with and without free liquids
OB/OD Conex	Waste explosives and propellant storage	Waste explosives and other energetic components from OB/OD activities

Table 1-1-3: Container Sampling Frequency	
Number of Containers	**Number of Containers to be Sampled**
1 to 8	1
9 to 25	2
26 to 50	3
51 to 90	5
91 to 150	8

Table 1-1-4: Sampling Equipment		
Waste Stream	**Equipment**	**Method**
Large Containers of Liquids	Composite Liquid Waste Sampler (COLIWASA)	USEPA SW846 Methods 3.2
Solids and Semi-solids	Stainless Steel Scoop	USEPA SW846 Methods 3.2
Small Containers of Liquids	Pipette	USEPA SW846 Methods 3.2

Table 1-1-5:
Sampling Methods and Rationale by Waste Stream

Waste	Analysis	Frequency	Sampling Method(1)	Rationale
Explosives/ Propellants in Munitions	Generator Knowledge	Prior to treatment	None	Samples are difficult or dangerous to obtain from this waste stream. Generator knowledge will be used for treatment, which is incineration at an on-site disposal facility.
Non-agent related Hazardous Wastes	TC Metals (D004-D011) Method 1311/6010B TC Organics (D012-D043) Method 1311/8260B/8270C) Ignitability (1010, 1020A) Corrosivity (9040B) Reactivity Other analyses requested by the DRMO	Each new waste type, and change in process or composition of waste generated a minimum of yearly is required. Prior to transfer to DRMO for offsite shipment	Thief, COLIWASA, grab, or process knowledge.	Non-agent contaminated hazardous wastes will be characterized for offsite treatment, storage, or disposal based on the material/process generating the waste and analytical data. Each of the parameters will be identified and analyzed for on a case-by-case basis.

(1) Sample containers and preservation techniques, if any, will be in accordance with individual method of analysis (see Table 1-1-4).

COLIWASA = Composite Liquid Waste Sampler BDAT = Best Demonstrated Available Technology
HEPA = High Efficiency Particulate Air LDR = Land Disposal Restriction
TC = Toxicity Characteristic TCLP = Toxicity Characteristic Leaching Procedure
HRA Health Risk Assessment
(2) Batch is defined as 10 drums or less

Table 1-1-6: Waste Characterization Methods		
Parameter	**Method**	**Rationale**
pH	USEPA SW846 Method 9040, 9045	Determine corrosivity
Flash Point	SW846 Method 1010 SW846 Method 1020A 1030	Determine ignitability
Free Liquids	Visual or SW846 Method 9095A	Determine if free liquids are present in solid waste
Total Metals Content	SW846 Methods 7131, 7191, 7421, 7470A, and 7471A, 6010B, 3010A, 3050B	Determine metals toxicity
TCLP	SW846 Method 1311	Obtain leachability sample
Specific Gravity	ASTM D 5057	Determine specific gravity
Water Content	USEPA 600/4-79/020	Determine water content
Fuel Value	ASTM D 5468	Determine recyclability of wastes
Volatile Organic Compounds (VOCs)	SW846 Method 8260B	Determine toxicity

Table 1-1-6: Waste Characterization Methods (Continued)		
Parameter	**Method**	**Rationale**
Halogenated VOCs	SW846 Method 8260B	Determine organic toxicity
Pesticides	SW846 Method 8082	Determine organic toxicity
Cyanide	SW846 Method 9010B, 9012A, or 9014	Determine reactivity
Explosives	SW846 Method 8330	Determine explosive concentrations. Determine total secondary explosive concentration for reactivity.
Semi-volatile Organics	SW846 Method 8270C	Determine organic toxicity

Table 1-1-7: Sample Containers, Preservation Methods, and Holding Times				
Parameter	**Container**	**Preservation**	**Extraction**	**Analysis**
SOLIDS				
Total Solids	1 x 4 oz glass	Cool 4°C	NA	28 Days
Metals	1 x 4 oz glass	Cool 4°C	NA	180 days (mercury 28 days)
VOCs	2 x 4 oz Glass, Teflon Septa, no headspace	Cool 4°C	NA	14 days
Mustard Agent	Polyethylene bag 1 x 16 oz glass	Cool 4°C	7 days	24 hrs
Nerve Agent	1 x16 oz. Glass.	N/A		30 days
TCLP Pesticides, Semi-Volatile Organic Compound (SVOCs)	1 x 16 oz glass	Cool 4°C	14 days	40 days
Cyanide	1 x 4 oz glass	Cool 4°C	NA	14 days
Explosives	Polyethylene bag	Cool 4°C	14 days	40 days
LIQUIDS				
Metals	1-L polypropylene plastic	Cool 4°C HNO_3 to pH<2 except GA and GB, no preservation	NA	180 days (mercury 28 days) GB and GA metals 14 days w/o preservatives
VOCs	3 x 40 mL glass, Septa vial, no headspace	Cool 4°C HCl or NaHSO4 to pH<2 except GA and GB, no preservations except cool 4°C.	NA	14 days with preservatives GB and GA samples 7 days w/o preservatives
Pesticides, SVOCs	1-L amber glass	Cool 4°C	7 days	40 days
Cyanide	1-L plastic	10 M. NaOH, pH>12, Cool 4°C		14 days
Chemical Agents	40 mL glass	Cool 4°C	72 hours	72 hours
Explosives	Amber Glass	Cool 4°C	7 days	40 days

Tooele Army Depot-South Area

Attachment 2

Inspection Plan

Inspection Plan [Utah Admin. Code R315-8-2.6]

1. Inspection Schedule [Utah Admin. Code R315-3-2.5(b)(5), Utah Admin. Code R315-8-2.6(b), Utah Admin. Code R315-8-5.3]

1.1 The Permittee shall inspect the permitted storage structures, equipment, and containers within Tooele Army Depot-South Area (TEAD-S or Facility) hazardous waste management units regularly and frequently according to a schedule designed to detect deterioration, tampering, malfunctions, and discharges that could cause a release of hazardous waste to the environment or pose a threat to human health. Most inspections shall be performed on a weekly basis unless operations or other circumstances indicate a different frequency of inspection. Inspection plans and schedules are found in Section 4 of this Attachment. Storage Area Inspection Log Sheets shall outline all areas that shall be inspected and provide inspection records. Inspection log sheets shall be found in Section 5 of this Attachment. Interior vapor inspections of the permitted storage structures shall be conducted on a weekly basis. Inspection records shall be maintained by the Permittee for a period of at least three years.

2.0 Types of Problems [R315-8-2.6(b)(3)]

2.1 Iinspection of all permitted facilities, including 90-day storage areas and satellite accumulation sites (SASs), shall determine:

2.1.1 Integrity of doors, locks, fences, and warning signs;
2.1.2 Secondary containment breaches, cracked floors, excessive moisture in buildings;
2.1.3. Leaks or deterioration of containers;
2.1.4 Proper labeling, accumulation dates,;
2.1.5 Adequate aisle spacing, stability of containers; and
2.1.6 Presence of Personal Protective Equipment (PPE), fire extinguishers, spill control kits, and eye washes where required.

3.0 Frequency of Inspections [R315-8-2.6(b)(4)]

3.1 Frequency of facility inspections at the Facility shall be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections.

3.2 The OB/OD Conex shall be inspected weekly. Containers shall be inspected weekly to meet the hazardous waste loading/unloading areas inspection requirements of Utah Admin. Code R315-8-9.5. Spill equipment and other contingency equipment shall be inspected weekly. Hazardous waste loading and unloading areas shall be inspected daily when in use. Section 3 of this Attachment contains inspection schedules.

3.3 Permitted igloos that are in use shall be inspected weekly for integrity of security features, proper secondary containment, building integrity, and spills. Lightning protection systems shall be inspected semiannually and tested biennially. The inspection log sheet for Area 10 igloos is provided in Figure 2-1.

3.4 Area 10 Igloos that store agent related wastes in containers shall be inspected weekly unless they are empty of hazardous waste. Containers shall be inspected weekly to meet the hazardous waste loading/unloading areas inspection requirements of Utah Admin. Code R315-8-9.5. Spill equipment and other contingency equipment shall be inspected weekly. Hazardous waste loading

and unloading areas shall be inspected daily when in use. Section 3 of this Attachment contains inspection schedules.

4.0. Specific Process Inspection Requirements [Utah Admin. Code R315-3-2.5(b)(5), Utah Admin. Code R315-8-2.6(b)]

4.1 Inspections for specific items are discussed in this section. Included are inspection descriptions for hazardous waste storage containers subject to Utah Admin. Code R315-8-22.

4.2 Container Inspections [Utah Admin. Code R315-8-9.5]

4.2.1 All hazardous waste containers shall be inspected weekly for corrosion, damage, spills, deterioration, and other conditions that could affect container integrity. In addition to examining the physical conditions of containers, all hazardous waste container inspections shall cover:

4.2.1.1 Facility operating record requirements,
4.2.1.2 Container labeling requirements,
4.2.1.3 Storage location requirements, and
4.2.1.4 Aisle space requirements.

5.0 Inspection Plans and Schedules

Table 2-1: Inspection Plan and Schedule for Area 10 Storage

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Storage Igloo[4]				
	Doors	Weekly	Verify that the only entrance to the igloo is locked when it is not in use.	I
	Locks	Weekly	Check locks to ensure that they are secured and in good condition.	I
	Spills	Weekly	Verify that no spills have occurred by looking for loose debris or liquid when applicable on container surfaces, pallets, and floor.	I
	Secondary Containment	Weekly	Verify that containers storing liquid waste are in overpacks or in drip pans. Verify that the overpacks or drip pans are not leaking.	I
	Building Integrity	Weekly	Ensure that the building is intact and that there are no structural defects.	I
Spill Equipment[2]				
	Contingency Plan[3]	Weekly	Ensure that the Contingency Plan is present.	N
	Fire Extinguisher	Weekly	Verify that the fire extinguisher is present and the pressure gage shows the extinguisher to be operational. Verify the expiration date on the extinguisher charge has not past.	I

Table 2-1: Inspection Plan and Schedule for Area 10 Igloo Storage (Continued)

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Spill Equipment Cont'd	Communication Equipment	Weekly	Verify that communication equipment is present and is functional.	I
	Eye Wash	Weekly	Verify eyewash is functional and that the flow rate of water is sufficient.	I
	Absorbent Material	Weekly	Verify absorbent material is present and in a usable condition.	I
	Protective Equipment	Weekly	Ensure that all protective equipment is on hand and is in good condition.	I
	Overpacks	Weekly	Ensure that overpacks and other cleanup equipment are available if required.	I

Table 2-1: Inspection Plan and Schedule for Area 10 Igloo Storage (Continued)

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Containers				
	Operating Record	Weekly	Verify that all entries in the operating record are complete and up to date. Entries include: 1) a description (common name, hazardous waste numbers, physical form, and for characteristic wastes, the process that produced the waste) and quantity (weight, or volume and density) of each hazardous waste received and the methods (handling codes) and dates of its storage at Area 10. Verify the location of the waste within Area 10 and the quantity at each igloo. Verify that the records and results of waste analyses are present along with any summary reports and details of any incidents that required implementation of the contingency plan are present.	I
	Container Labels	Weekly	Verify that all containers are labeled with a yellow hazardous waste label and label subheadings are filled out	I
	Containers	Weekly	Ensure all containers in storage are: 1) not bulging, 2) not dented or creased, 3) uncorroded, and 4) not leaking.	I
	Storage Location	Weekly	Ensure that wastes received at the igloo since the last inspections are stored in a compatible manner.	I
	Aisle Space	Weekly	Ensure that there is a minimum of 2.5 feet of aisle space, 24 rows, 4 pallets per row, barrels are stacked no more than 2 high, and there are a maximum of or the equivalent of 4, 55-gallon drums per pallet.	I

Notes:
1. Corrective Action (If necessary): 'I' Initiate corrective action immediately. 'N' Initiate corrective action prior to next inspection.
2. All spill control equipment, with the exception of the overpacks, are available on the transport vehicle.
3. Contingency Plans will be available on the transport vehicle.
4. Igloos that are empty of hazardous waste containers will not be inspected weekly.

Table 2-2: Inspection Plan and Schedule for Open Burning/Open Detonation (OB/OD) Conex Storage and Building 4553 Storage Vault

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY[1]	TYPES OF PROBLEMS	CORRECTIVE ACTION[2]
OB/OD Conex				
	Doors	Weekly	Verify that the only entrance to the OB/OD Conex is locked when OB/OD grounds are not in use.	I
	Lock	Weekly	Check the lock to ensure that it is secured and in good condition.	I
	Warning Signs	Weekly	Verify that warning signs are readable from a distance of 25 feet. The OB/OD Conex has one door and can only be accessed through it; therefore, the sign must be visible when the OB/OD Conex is approached.	I
	Leaks/Spills	Weekly	Verify that no releases to the environment have occurred by checking the interior dirt floor of the OB/OD Conex and the loading/unloading zone for discolorations due to a spill or leak from a reactive waste munition.	I
	Building Integrity	Weekly	Ensure that the OB/OD Conex has not been tampered with and that it is intact.	I

Table 2-2: Inspection Plan and Schedule for OB/OD Conex Storage and Building 4553 Storage Vault (Continued)

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY[1]	TYPES OF PROBLEMS	CORRECTIVE ACTION[2]
Containers				
	Operating Record	Weekly	Verify that all entries in the operating record are complete and up to date. Entries include: 1) a description (common name, EPA hazardous waste numbers, physical form, and for characteristic wastes, the process that produced the waste) and quantity (weight, or volume and density) of each hazardous waste received and the methods (EPA handling codes) and dates of its treatment, storage, or disposal at the OB/OD grounds. Verify the location of the waste within the facility and the quantity at each location. Verify that the records and results of waste analyses are present along with any summary reports and details of any incidents that required implementation of the contingency plan are present.	I
	Container Labels	Weekly	Verify that all containers are labeled with a yellow hazardous waste label and label subheadings are filled out.	I
	Containers	Weekly	Verify all containers in storage are: 1) not bulging, 2) not dented or creased, 3) uncorroded, and 4) not leaking.	I
Spill Equipment				
	Contingency Plan	Weekly	Ensure that the Contingency Plan is present on the transport vehicle.	N
	Fire Extinguisher[3]	Weekly	Verify that the fire extinguisher is present and the pressure gauge shows the extinguisher to be operational. Verify the expiration date on the extinguisher charge has not past.	I

Table 2-2: Inspection Plan and Schedule for OB/OD Conex Storage and Building 4553 Storage Vault (Continued)

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY[1]	TYPES OF PROBLEMS	CORRECTIVE ACTION[2]
Spill Equipment Cont'd	Communication Equipment[3]	Weekly	Verify that communication equipment is present and functional.	I
	Eye Wash[3]	Weekly	Verify eyewash is functional and that the flow rate of water is sufficient.	I

Notes:
1 When in use.
2 Corrective Action (if necessary): 'I' Initiate corrective action immediately. 'N' Initiate corrective action prior to next inspection.
3 Items are available on the transporting vehicle.

Table 2-3: Inspection Plan and Schedule for Building 4536

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Building				
	Doors	Weekly	Verify that entrances to the building are closed when building is not in use.	I
	Locks	Weekly	Check locks to ensure that they are secured and in good condition.	I
	Warning Signs	Weekly	Verify that warning signs are readable from a distance of 25 feet and are able to be noticed from any direction the building may be entered.	I
	Leaks, Spills	Weekly	Verify that no releases to the environment have occurred by checking for discolorations on the dirt floor of the building.	I
	Odors	Weekly	Verify the absence of odors. If odors are present, it is an indication of a possible spill, open container, leaking container, etc.	I
	Building Integrity	Weekly	Ensure that there are not noted breaks in the integrity of the building.	I

Table 2-3: Inspection Plan and Schedule for Building 4536 (Continued)

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Containers				
	Operating Record	Weekly	Verify that all entries in the operating record are complete and up to date. Entries include: 1) a description (common name, hazardous waste numbers, physical form, and for characteristic wastes, the process that produced the waste) and quantity (weight, or volume and density) of each hazardous waste received and the methods (handling codes) and dates of its storage at the building. Verify the location of the waste within the building and the quantity at each location. Verify that the records and results of waste analyses are present along with any summary reports and details of any incidents that required implementation of the contingency plan are present.	I
	Container Labels	Weekly	Verify that all containers are labeled with a yellow hazardous waste label and label subheadings are filled out.	I
	Proper Storage Location		Verify that wastes received at the building since the last inspections are stored in a compatible manner.	I
	Containers		Verify that all containers are: 1) not bulging, 2) not dented or creased, 3) uncorroded, and 4) are not leaking.	I
	Aisle Space		Ensure that there is a minimum of 2.5 feet of aisle space for inspections, emergency equipment, and spill control equipment.	I
Spill Equipment				
	Contingency Plan[2]	Weekly	Ensure that the Contingency Plan is present at the building.	N

Table 2-3: Inspection Plan and Schedule for Building 4536 (Continued)

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Spill Equipment Cont'd	Fire Extinguisher	Weekly	Verify that the fire extinguisher is present and that pressure gauge shows the extinguisher to be operational. Verify the expiration date on the extinguisher has not past.	I
	Communication Equipment[2]	Weekly	Verify that communication equipment is present (portable or installed in the truck) and functional.	I
	Eye Wash[2]	Weekly	Verify eyewash is functional and that the flow rate of water is sufficient.	I

Notes:
[1]Corrective Action (If necessary): 'I' Initiate corrective action immediately. 'N' Initiate corrective action prior to next inspection.
[2]Items are available on the transporting vehicle.

Table 2-4: Inspection Plan and Schedule for Buildings 4104, 4105, and 4107

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Building				
	Doors	Weekly	Verify that the entrance to the building is locked when unoccupied.	I
	Lock	Weekly	Ensure that locks are in working order and secure.	I
	Warning Signs	Weekly	Verify that warning signs are readable from a distance of 25 feet and that all required signs are properly posted at entrance.	I
	Leaks/Spills	Weekly	Ensure that no releases to the environment have occurred and visually inspect all drip pans for signs of leaking containers.	I
	Building Integrity	Weekly and after storms	Verify that walls and ceiling are in proper repair.	I
Containers				
	Operating Record	Weekly	Verify that all entries in the operating record are complete and up to date.	I
	Container Labels	Weekly	Verify that all containers are labeled with a yellow hazardous waste label and label subheadings are filled out.	I
	Containers	Weekly	Verify all containers in storage are: 1) not bulging, 2) not dented or creased, 3) not corroded, and 4) not leaking.	I
Spill Equipment				
	Contingency Plan[2]	Weekly	Ensure that the Contingency Plan is present at Buildings 4104, 4105 and 4107.	I
	Fire Extinguisher	Weekly	Verify that the fire extinguisher is present and that pressure gauge shows the extinguisher to be operational. Verify the expiration date on the extinguisher has not past.	I

Table 2-4: Inspection Plan and Schedule for Buildings 4104, 4105 and 4107 (Continued)

FACILITY OR CHARACTERISTIC	ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Spill Equipment Cont'd	Communication Equipment[2]	Weekly	Verify that communication equipment is present and functional.	I
	Eye Wash[2]	Weekly	Verify eyewash is functional and that the flow rate of water is sufficient.	I

Notes:
[1]Corrective Action (If necessary): 'I' Initiate corrective action immediately. 'N' Initiate corrective action prior to next inspection.
[2]Items are available on the transporting vehicle.

Table 2-5: Inspection Plan and Schedule for Hazardous Waste Loading/Unloading Areas

ITEM	FREQUENCY	TYPES OF PROBLEMS	CORRECTIVE ACTION[1]
Loading Dock/Ramp	Whenever in use	Inspect the loading ramps or concrete aprons for signs of damage that might cause instability, or difficulty in operation of materials handling equipment. Look for scaling or chipping of surface, debris, or other objects on the concrete ramp/apron that the equipment operator would have to avoid.	I
Leaks/Spills	Whenever in use	Inspect for evidence of spills by looking for residue on pallets and truck cargo beds. Look for soil discoloration in and around the concrete ramp/apron and in the vicinity of the materials handling equipment, i.e., trucks and forklifts.	I
Container Transferred[2]	Whenever in use	Inspect the containers that are to be transferred to insure they are in good condition. Look for corrosion, bulging, loose lids, dents, or creases. Insure pallets are not crushed or broken to the point of causing difficulty to the forklift operator. Look for loose or broken banding.	I
	Whenever in use	Ensure the containers are transferred to the proper location in storage, i.e., compatible storage configuration.	I
	Whenever in use	Ensure the containers are labeled and that the label subheadings are filled out. This includes Waste Stream Name, Waste Description, Container Number, Waste Stream Number, Weight, and Accumulation Start Date.	I
	Whenever in use	Ensure the transferred containers are added or subtracted from the operating record. Ensure the waste codes contained on the container label are permitted to be stored in the facility (if the transfer is a receipt). Ensure the waste analysis plan includes the typed of waste being transferred (if the transfer is a receipt).	I
	Whenever in use	Ensure the Hazardous Waste Manifest (if the transfer involves an off-site transfer of containers) is filled out properly, and no entries are left blank.	I

Notes:
[1]Corrective Action (If necessary): 'I' Initiate corrective action immediately. 'N' Initiate corrective action prior to next inspection.
[2]Container transfers may involve the movement of on-site generated waste between hazardous waste management units and/or the receipt of off-site agent-related waste. This does not include munitions that are currently part of the national chemical munitions stockpile, but includes: 1) Wastes found during corrective action cleanup activities which must be transported to a facility that has the proper storage and disposal capabilities, 2) conventional munitions, explosives, or propellants that have been declared hazardous waste and have been shipped from Tooele Army Depot-North (TEAD-N) to Tooele Army Depot-South (TEAD-S) for storage or treatment (Open Burning/Open Detonation).

5.0 Inspection Logs and Forms

Figure 2-1: Weekly Inspection Log for Area 10 Storage

An explanation of any deficiency and associated corrective action(s) will be provided in the appropriate section below.

IGLOO

i-1. Locks/Doors
i-2. Spills/Leaks
i-3. Secondary Containment
i-4. Building Integrity

CONTAINERS

c-1. Operating Record
c-2. Container Labels
c-3. Storage Location
c-4. Storage Location
c-5. Aisle Space

SPILL EQUIPMENT

s-1. Contingency Plan*
s-2. Fire Extinguisher*
s-3. Communication Equipment*
s-4. Eye Wash*
s-5. Absorbent Material*
s-6. N/A
s-7. Protective Equipment*
s-8. N/A
s-9. N/A
s-10. Overpacks

MONITORING At minimum, two of the following systems:

Note: Items with an asterisk are available on the Transport Vehicle.

Igloo Number/Deficiency									
2810/									
2811/									

Deficiencies Discovered (Igloo number and description of deficiency):

_____
_____
_____

Repairs/Corrective action taken (Date; location; and nature of repairs made):

_____
_____
_____

All inspections are done in accordance with state, federal, and Army regulations

Inspected by:_____
Signature:_____
Date:_____ Time:_____

Figure 2-2: Weekly Inspection Log for Container Storage Buildings

Deficiencies will be noted next to management unit by number of finding. An explanation of the deficiency will be noted in the comment section.

FACILITY		**SPILL EQUIPMENT**	
1.	Doors	12.	Contingency Plan*
2.	Locks	13.	Fire Extinguisher
3.	Warning Signs	14.	Communication Equipment*
4.	Spills/Leaks	15.	Eye Wash*
5.	Odors		
6.	Building Integrity		
CONTAINERS			
7.	Operating Record		
8.	Container Labels		
9.	Proper Storage Location		
10.	Containers		
11.	Aisle Space		

NOTE 1: Items with an asterisk are available on the transporting vehicle.

CONTAINER STORAGE BUILDINGS
Conex

Deficiencies Discovered (Igloo number and description of deficiency):

_____
_____
_____

Repairs/Corrective action taken (Date; location; and nature of repairs made):

_____
_____
_____

All inspections are done in accordance with state, federal, and Army regulations

INSPECTED BY:_____
SIGNATURE:_____
DATE:_____ TIME:_____

Figure 2-3: Weekly Inspection Log for Hazardous Waste Loading/Unloading Areas

Deficiencies will be noted next to management unit by number of finding. An explanation of the deficiency will be noted in the comment section.

FACILITY	**CONTAINERS TRANSFERRED**
1. Condition of Dock/Ramp	3. Leaks/Damage
2. Evidence of Leaks/Spills	4. Proper Location
	5. Marking/Labeling
	6. Operating Record
	7. Manifests

LIST SPECIFIC HW LOADING/UNLOADING AREAS INSPECTED IN PARENTHESES

BUILDING ( )	BUILDING ( )	BUILDING ( )
BUILDING ( )	BUILDING ( )	BUILDING ( )
BUILDING ( )	BUILDING ( )	BUILDING ( )
BUILDING ( )	BUILDING ( )	BUILDING ( )
BUILDING ( )	BUILDING ( )	BUILDING ( )
BUILDING ( )	BUILDING ( )	BUILDING ( )
BUILDING ( )	BUILDING ( )	BUILDING ( )
BUILDING ( )	BUILDING ( )	BUILDING ( )

Deficiencies Discovered (Building number and description of deficiency):

_____

_____

_____

Repairs/Corrective action taken (Date; location; and nature of repairs made):

_____

_____

_____

All inspections are done in accordance with state, federal, and Army regulations.

INSPECTED BY:_____SIGNATURE: _____

DATE:_____

TIME:_____

Tooele Army Depot-South Area
Attachment 3
Training Plan

Training Plan

1. General [R315-3-2.5(b)(12), R315-8-2.7]

1.1 Employee training at Tooele Army Depot-South Area (TEAD-S or Facility) is crucial to the accomplishment of all the Facility's missions and the requirement to provide environmental training is a top priority. The Permittee shall maintain a formal program designed to enhance the environmental competencies of its participants and to promote responsible environmental practices throughout the organization. This training was developed and implemented as part of the Facility's safety and health program for employees involved in hazardous waste operations. Specific coursework has been outlined for this program, which contains material appropriate for accomplishing these objectives.

1.2 This program has evolved into a comprehensive approach to integrating the requirements to the Resource Conservation and Recovery Act (RCRA), Occupational Safety and Health Act (OSHA), the Utah Admin. Code and other regulatory training requirements for meaningful training. The TEAD-S's Training Plan shall contribute to the employees' ability to perform their assigned duties and function in a safe and healthful manner so as not to endanger themselves, other employees, or the environment.

2.0 Scope and Application

2.1 All Facility employees shall receive initial training in Hazard Communication. Additionally, employees that are involved in the managing, storage, or handling of hazardous waste at the Facility, including those on temporary appointment, shall be required to complete Hazardous Waste Management training. The types of duties an employee may engage in when dealing with hazardous waste includes, but is not necessarily limited to, engineering, technical work, transportation, containerization, labeling, storage, identification, record keeping, emergency response, and treatment.

3.0 Program Administration

3.1 Recordkeeping/Reports/Documentation [Utah Admin. Code R315-8-2.7(a)(2), (d)(1), and (d)(2)]

3.2 The Permittee's hazardous waste management training program director is the Environmental Manager and is responsible for supervising the initial training and annual retraining of personnel. The training director shall review and approve the content, method of presentation, and evaluation techniques for all courses developed in support of the Facility's hazardous waste management training program. Each training instructor shall be a subject matter expert in the area of Hazardous Waste Management.

3.3 Personnel training shall be documented and the appropriate records shall be maintained in the Facility's Operating Record. Training records for current employees shall be kept until facility closure. Training records of former employees shall be kept for three years from the date that the employee last worked at the facility.

3.4 Job Description [Utah Admin. Code R315-3-2.5(b)(12), Utah Admin. Code R315-8-2.7(a)(3), (b), (c), (d)(1), and (d)(2)]

Hazardous Waste Training for new personnel shall be initiated when they start work at the Facility and shall be completed within six months. Personnel shall not be allowed to work

unsupervised until training is completed. New personnel shall not be assigned the responsibility of responding to emergency situations until training in the appropriate responses is completed. As presented in Table 3-1, Hazardous Waste Operations Training Program, the initial training for all Facility employees that are involved in Hazardous Waste operations shall be 5 hours and the annual refresher training shall be 5 hours. Personnel who transfer to Hazardous Waste operations from other areas shall successfully complete the training program within six months of their transfer.

Table 3-1:
Hazardous Waste Operations Training Program

Course	Initial Training	Annual Refresher Training
TEAD-S Hazardous Waste Management and Hazard Communication Course	5 hours	5 hours
Totals:	5 hours	5 hours

The Facility's training program director shall maintain a list of employees, who are part of the Hazardous Waste Management Training Program. This list shall include the job titles and positions with the name of each employee filling that position. It shall also include a written job description for each position, which shall list the required skills, and hazardous waste management/handling duties that may be required. It shall be the responsibility of the employee's supervisor or director to notify the training director when an employee is to be added to or removed from the training program.

Employees that have been identified as performing hazardous waste duties shall be provided an update to their job description, which outlines their hazardous waste duties. This description of hazardous waste duties shall be as follows: Performs hazardous waste management duties and/or hazardous waste worker duties in permitted or regulated facilities. Duties may involve one or more of the following: management, coordination, engineering or technical work involving hazardous waste management programs or projects; and/or movement, containerization, storage, identification, recordkeeping, emergency response, treatment, and/or disposition of hazardous waste. Such duties shall require the ability to interpret and implement environmental regulations; knowledge of hazardous waste products and safety regulations; and the skill to effect regulatory requirements and ensure proper management and/or handling of hazardous wastes.

Employees shall successfully complete training in hazardous waste management procedures within six (6) months after the date of appointment to this position and will not work in unsupervised situations until these training requirements have been met. Employees shall also participate in an annual review of this training.

4.0 Emergency Response [Utah Admin. Code R315-8-2.7(a)(3)]

4.1 Emergency response shall be handled in accordance with Attachment 4 (Contingency Plan).

4.2 The Facility training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies. Test exercises that simulate emergencies at the Facility shall be conducted at regular intervals to practice implementation of the various emergency response plans. At the conclusion of each test exercise, a critique session is held to improve the emergency response prior to an actual emergency.

5.0 Course Outlines [Utah Admin. Code R315-3-2.5(b)(12), Utah Admin. Code R-315-8-2.7(a)(2)]

5.1 The Permittee's Hazardous Waste Management Training Program shall consist of one initial training course and an annual refresher course. The course listing shall be as follows:

5.1.1 Tooele Army Depot-South Area Hazardous Waste Management and Hazard Communication Course.

5.2 Each employee in the Facility Hazardous Waste Training Program shall successfully complete the classroom study. Students completing the training course shall sign a Training Attendance Roster which reflects the course title, date and number of hours of training.

5.3 Each employee shall also receive annual refresher training in the above areas.

5.4 The training program is a dynamic program that shall be updated in response to new information and changes in the regulations. Each course outline remains relatively stable but the content shall be revised as necessary to remain current. The following is an outline of the subject matter in each initial and annual refresher-training course along with a brief description of each lesson:

6.0 Hazardous Waste Management Course (Initial and Refresher)

6.1 Utah Admin. Code, RCRA, OSHA, and Army Regulations. This lesson shall be a brief overview of various regulations, water, air, and hazardous materials regulations as well as the permit history, permit training requirements, and the penalties that may be imposed for noncompliance shall also be discussed.

6.2 Hazardous Waste Identification. This lesson shall discuss when a material becomes a hazardous waste, give the definition of F999 and P999, provide a list of various materials that are required to be managed as hazardous waste at the Facility, and requirements of the hazardous waste label.

6.3 Hazardous Waste Management. This lesson shall describe the various information required for the Facility's Operating Record. Additional record keeping requirements, spill or release notification requirements, the permitted storage and process areas at the Facility, hazardous waste movement between these areas, and the forms used to collect hazardous waste treatment and storage information shall be discussed.

6.4 Hazardous Waste Handling Procedures. This lesson shall discuss the selection of proper containers for waste, aisle space requirements in storage areas, and that training for new employees must be completed within six months.

6.5 Waste Analysis. The lesson topics shall include the general requirements of the Waste Analysis Plan, hazardous waste characteristics, laboratory certification, and documentation of waste analysis.

6.6 Maximum Exposure Limits. This lesson shall review the use and selection of proper personal protective equipment (PPE) for the type of work performed.

6.7 New Technologies and Engineering Controls. This lesson shall describe new or alternate technologies at the Facility and how engineering controls are used to prevent worker exposure or reduce worker exposure below permissible exposure limits.

6.8 Emergency Response. This lesson shall discuss the implementation of various spill plans: The Installation Spill Contingency Plan (ISCP), the Spill Prevention Control and Countermeasures Plan (SPCCP), and the Emergency Control Plan (ECP). Site sirens, alarms, emergency phone numbers, and individual employee actions for spill notification are also reviewed.

6.9 Waste Minimization. This lesson shall discuss waste minimization goals and methods and ideas to minimize the generation of hazardous waste with emphasis on reducing priority, and highly toxic chemicals. The requirements of Executive Orders and other methods of waste minimization such as substitution of less toxic materials and recycling shall be discussed.

6.10 SDSs. This lesson shall inform employees of the location of the "Right to Know" centers that contain SDSs and additional safety and emergency response information. A brief review of how to read and understand the information in a SDS is also presented as initial training and a yearly refresher of the OSHA Hazard Communication Standard.

7.0 On-The-Job Training

7.1 Facility employees shall receive on-the-job training from their supervisor based on the individual's job description. The training shall include contingency plan implementation and familiarization with emergency procedures and equipment for the employee's applicable work area. The supervisor shall also provide training on applicable Standing Operating Procedures (SOPs). Additional on-the-job training shall occur when a new hazardous material is introduced to the work place, or a new procedure is implemented.

Tooele Army Depot-South Area

Attachment 4

Contingency Plan

1.0 Purpose and Scope [Utah Admin. Code R315-3-2.5(b)(7), Utah Admin. Code R315-8-4]

1.1 The Permittee shall minimize hazards to human health or the environment from fires, explosions, or any unplanned release of hazardous waste or hazardous waste constituents from facilities associated with the Tooele Army Depot-South Area (TEAD-S or Facility). The Facility utilizes the following three plans to accomplish this. 1. The Oil and Hazardous Substance Spill Prevention, Control, and Countermeasures Plan (SPCCP) is proactive, and describes controls designed to prevent spills or minimize the impact of spills of oil and hazardous substances to the environment. 2. The Installation Spill Contingency Plan (ISCP) details what actions will take place if a hazardous material spill or release occurs. 3. If a disaster occurs as the result of natural forces, civil disturbances, major accidents or incidents, oil spills, hazardous substance pollution, or enemy action, the Emergency Control Plan (ECP) is implemented. Together, these three plans detail and implement contingency planning provisions.

2.0 Location of Installation

2.1 The Facility is located approximately 12 miles south of Tooele City in Tooele County, Utah. Figure 6-1, Tooele Army Depot-South Area-General Site Map, found in Attachment 6 shows the general layout of the Facility. The primary mission of the Facility is the storage of conventional munitions. Hazardous waste activities performed at the Facility are described in Attachments 1 (Waste Analysis Plan) and 12 (Container Management).

3.0 Name/Address/Telephone Number of Owner/Operator

3.1 The Facility is operated by the Joint Munitions Command (JMC) for the US Army. The address and telephone number for the operator is:

Commander, Tooele Army Depot-South Area
JMTE-GMV, Building 5119 Attn: Environmental Division
1 Tooele Army Depot
Tooele, UT 84074-5000
(435) 833-4198

4.0 Reporting of Spills [Utah Admin. Code R315-8-4.7(a) and (d)]

4.1 Any employee who witnesses or discovers a spill or incident involving hazardous substances and determines that the incident requires emergency response shall be responsible for notifying the Fire Department (FD) by dialing 911. After receiving the 911 call, the On Scene Commander (OSC) shall activate the FD Hazardous Materials Team and notify the Installation On Scene Coordinator (IOSC). The IOSC shall note in the Operating Record the time, the date, and the details of any accident/incident requiring the implementation of the Contingency Plan (i.e., a spill/release of a hazardous material/waste equal to or greater than the reportable quantity). The IOSC shall initiate any required external reporting requirements as detailed in Section 22 below.

5.0 Location of Hazardous Waste Storage Facilities

5.1 Hazardous wastes shall be stored in a manner to facilitate accountability and control.

5.2 Permitted storage igloos located in Area 10 shall be used for storage of agent-related secondary waste, and hazardous wastes. Wastes stored in Area 10 shall be primarily those containing free liquids, although wastes without free liquids may be stored in Area 10.

5.3 The Open Burning/Open Detonation (OB/OD) Conex container is located in the OB/OD area of the Facility. The purpose of the OB/OD Conex is to store containers of conventional munitions that have been designated as hazardous waste. Hazardous wastes generated by support activities shall be stored in 90-day storage areas, and then shall be shipped to a licensed Treatment, Storage, and Disposal Facility (TSDF).

6.0 General

6.1 Implementation [Utah Admin. Code R315-8-4.2(b), Utah Admin. Code R315-8-4.3]

6.2 The IOSC will ensure that an incident log is kept for all spills and releases.

6.3 The IOSC shall maintain a current ISCP that shall be reviewed and evaluated at the same time as the SPCCP. The SPCCP shall be reviewed and evaluated at least once every 3 years, or when material changes in facility design, operation, or maintenance are made that would affect the potential for a release of oil or hazardous substances to the environment per 40 CFR § 112.5, which requires that any change be entered into the plan within six months of that change. Any amendment made to the SPCCP shall be reflected in the ISCP. It shall be the responsibility of Permittee to ensure that copies of the SPCCP, the ISCP, and all revisions to the plans shall be:

6.3.1 Maintained at the Facility in the Operating Record;
6.3.2 Submitted to the Facility's fire departments;

6.4 The SPCCP shall describe the sites at the Facility with a potential to release oil or regulated material/waste, and describes the controls designed to prevent spills or minimize the impact of spills on the environment. The SPCCP shall provide:

6.4.1 The objectives of the plan, a description of the facility, a description of the surface water location and characteristics, a list of historical spills, and a list of spill control personnel;
6.4.2 The spill prevention, control, and countermeasure requirements;
6.4.3 A description of operational activities that may potentially cause a spill and the preventative measures or controls to be used for each site; and

6.4.4 The implementation of security, training, inspections, and record keeping.

6.5 The ISCP identifies resources, equipment, personnel, and procedures to be used to prevent oil or non-agent-related hazardous material/waste spills from reaching surface and subsurface water. The ISCP shall also be designed to minimize hazards to human health and the environment from fires, explosions, or any unplanned sudden or gradual release of oil or non-agent-related hazardous material/waste to air, soil, or surface water, and will be carried out whenever any of these incidents occur. The ISCP shall provide:

6.5.1 Identification of the IOSC, the TEAD-S FD, and their responsibilities for implementing the plan;
6.5.2 A discussion of the roles of various other Facility personnel; and
6.5.3 A discussion of the implementation of the ISCP including actions to be taken during an oil or non-agent-related hazardous material/waste spill.

7.0 Emergency Coordinators [Utah Admin. Code R315-8-4.3(c), Utah Admin. Code R315-8-4.6]

Emergency Coordinators		
Name	**Title**	**Telephone Number**
Primary		
John Gollaher	Asst. Fire Chief/IOSC	Office: (435) 833-2015 Home: (435) 830-7717
Alternate 1:		
Mike Eddington	Security Manager	Office: (435) 833-5126 Home: (801) 319-4032

Fire Department Supervisors		
Name	**Title**	**Telephone Number**
Primary		
Craig Tate	Fire Chief/IOSC	Office: (435) 833-2015 Home: (435) 530-7074
Alternate 1:		
John Gollaher	Assistant Fire Chief	Office: (435) 833-2015 Home: (435) 830-7717

7.1 This section describes the emergency response organization and designated emergency coordinators and other personnel at the Facility. Directorates shall provide personnel, equipment, and expertise for proper response to spills of oil or hazardous material/waste, as described in the SPCCP and ISCP.

8.0 <u>Procedures for Early Detection of Spills</u>

8.1 All hazardous waste containers shall be inspected weekly for corrosion, damage, spills, deterioration, and other conditions that could affect container integrity. In addition to examining the physical conditions of containers, all Facility hazardous waste container inspections shall cover:

8.1.1 Facility operating record requirements,
8.1.2 Container labeling requirements,
8.1.3 Storage location requirements, and
8.1.4 Aisle space requirements.

9.0 Installation On Scene Coordinator [Utah Admin. Code R315-8-4.3(a), Utah Admin. Code R315-8-4.6]

9.1 The responsibilities of the IOSC shall include:

9.1.1 Identification of the character, source, and size of the area affected by the spill;
9.1.2 Assessment of possible direct or indirect hazards to human health and the environment as a result of the spill;
9.1.3 Determination of the need for agency notification;
9.1.4 Requests for additional manpower and resources if required; and
9.1.5 Coordination of mitigation, cleanup, and reporting procedures.

9.2 The IOSC is responsible for assessing the potential impact of an incident/accident and coordinating the deployment of personnel and equipment for mitigation. The IOSC shall coordinate and direct all Army efforts to control and clean up hazardous substance spills or releases caused by the Army, tenants, or other agencies within facility boundaries. The Advisory/Support Group shall support the IOSC, as necessary.

9.3 A minimum of one employee shall be qualified to act, as the IOSC and shall be available at all times. The IOSC shall be responsible for coordinating all emergency response measures. The IOSC shall be thoroughly familiar with all aspects of the Contingency Plan, which includes the SPCCP, the ISCP, as well as all operations and activities at the installation, the location and characteristics of wastes handled, and the location of pertinent records at the installation, and the installation layout. The IOSC shall be responsible to:

9.3.1 Notify and deploy the TEAD-S FD;
9.3.2 Determine the magnitude of the spill;
9.3.3 Notify the Installation Commanding Officer;
9.3.4 Seek immediate medical attention for those individuals injured as a result of the spill;
9.3.5 Make necessary notifications to Security;
9.3.6 Arrange for contracts with offsite disposal facilities and cleanup contractors;
9.3.7 Determine the quantity of material released and determine whether a reportable quantity of oil or hazardous material/waste was released to the environment; and
9.3.8 Make necessary notifications to the Division of Waste Management and Radiation Control (Division) and United States Environmental Protection Agency (EPA).

10.0 Reserved

11.0 Emergency Spills

11.1 Any employee who witnesses or discovers a spill or incident involving hazardous substances, and determines that the incident requires an emergency response or involves an unknown substance, shall call the TEAD-S FD by dialing 911. In no instance shall the discoverer or other person endanger their personal safety to control the spill or release. After receiving a 911 call, the FD supervisor (OSC) shall activate the FD Hazardous Materials Team, notify the IOSC, and commence mitigation procedures.

11.2 The IOSC shall communicate with the OSC and mobilize the FD as necessary. The Incident Command System (ICS) will be implemented. All FD members will operate within the ICS. Initial response to emergency spills may require the immediate area to be evacuated.

11.3 The FD Hazardous Materials Team shall remain at the incident site until the emergency is brought under control. When the emergency situation has been brought under control, the IOSC shall direct one of the other groups (facilities, local area responders, HW management, employees, etc.) to complete the cleanup operations, and report the incident to the Environmental Manager (EM).

12.0 Non-Emergency Spills (Incidental Releases)

12.1 Non-emergency spills shall be cleaned up using locally available materials and manpower, and shall be reported as soon as possible to the EM in accordance with the site-specific spill response instructions posted in the immediate area. The EM shall report all spills at or above the reportable quantity to the appropriate state and federal agencies.

13.0 Reserved

14.0 <u>Spill Response, Duties, and Responsibilities</u>

14.1 Fire Department

14.1.1 The TEAD-S FD supervisor shall assume the role of OSC. The OSC shall direct the actual cleanup operations at the site of the incident, with the assistance of the TEAD-S FD Hazardous Materials Team. The TEAD-S FD Hazardous Materials Team shall be the most highly trained and equipped group on the installation for spill response and is responsible for entering the spill area and mitigating releases of hazardous materials or waste. The participation of the FD Hazardous Materials Team shall be limited to incidents involving real or suspected emergency hazards. It shall be the responsibility of trained workers at potential spill sites to respond to and clean up all non-emergency releases in their own work areas.

14.2. Advisory/Support Group

14.2.1 The advisory/support group is composed of the principal Facility divisions that will assist the IOSC in an emergency response situation. Members of this group and their responsibilities are:

14.2.1.1 Environmental Manager assists with the evaluation of environmental threats, proper disposal and management of wastes, technical guidance, and reporting to outside agencies as required by regulations.

14.2.1.2 The Installation Safety Officer provides site-specific information on chemical and other hazards at depot facilities including Safety Data Sheets (SDSs), Personal Protective Equipment (PPE) information, sampling/monitoring data, chemical hazards and other emergency response information. Other responsibilities include the establishment of control zones based upon the evaluation of hazards, ensuring that proper decontamination procedures are in place, and documentation of site activities.

14.2.1.3 The IOSC and/or OSC provide monitoring of the scene and determine the extent of contamination around the scene and will use monitoring information to determine evacuation priorities.

14.2.1.4 U.S. Army Health Clinic is responsible for medical surveillance and support for the FD Hazardous Materials Team and emergency medical treatment.

14.2.1.5 Public Affairs Office (PAO) may be called upon by the IOSC to interface with the news media in the event that a hazardous substance escapes from the installation and threatens the public.

14.2.1.6 Contract Officer will initiate a contract for spill cleanup by private contractor if directed by the IOSC. Cleanup contractors may be used when spill cleanup operations impair the primary mission of the Facility, or when the spill exceeds the capabilities of the Facility.

14.3 Local Area Responders

14.3.1 Local area responders are Facility personnel who regularly work in hazardous waste management facilities having a potential for spills of hazardous substances. Their responsibilities include cleaning up small or large incidental spills (non-emergency) of substances for which they are equipped and trained, and with which they are familiar. This includes stopping or containing flows, diking, repairing leaks; containerizing and labeling spilled wastes, and notification of the IOSC. For larger non-emergency spills, this group may be called upon by the IOSC to assist in the cleanup of spills in areas other than where they ordinarily work.

14.4 Hazardous Waste (HW) Management Facility Employees

14.4.1 The responsibilities of this group are similar to those of the Local Area Responders except that these individuals are members of the Facility Hazardous Waste Management Program (HWMP). The HWMP is required for all employees who work at permitted hazardous waste management facilities.

14.5 Law Enforcement and Security

14.5.1 The function of this group is to control traffic and crowds associated with an incident, and to assist the OSC with emergency evacuation and isolation.

14.6 Facilities Support

14.6.1 Facilities Support provides heavy equipment support as instructed by the IOSC. This group may be called upon to disconnect electrical power when deemed necessary by the OSC.

14.7 JMC Office of Chief Counsel

14.7.1 The JMC Office of Chief Counsel assists the IOSC in ensuring that all record-keeping and sampling activities initiated during a response action will be conducted according to applicable rules and regulations.

15.0. Spill Response Mobilization Procedures

15.1 Notification [Utah Admin. Code R315-8-4.7(a) and (d)]

15.1.1 Any employee who witnesses or discovers a spill or incident involving hazardous substances and determines that the incident requires emergency response is responsible for notifying the FD by dialing 911. After receiving the 911 call, the OSC shall activate the FD Hazardous Materials Team and notify the IOSC as described above. The IOSC shall note in the Operating Record the time, the date, and the details of any accident/incident requiring the implementation of the Contingency Plan (i.e., a spill/release of a hazardous material/waste equal to or greater than the reportable quantity). The IOSC shall initiate any required external reporting requirements as detailed in Section 22.0.

15.2 Identification of Hazardous Materials [Utah Admin. Code R315-8-4.7(b)]

15.2.1 Following the occurrence of a release, fire, or explosion, the IOSC shall identify the character, exact source, amount, and the size of the area affected by any released materials. Primary identification of released hazardous materials/wastes will depend on the ability of the IOSC to trace the discharge to its source. For the majority of incidents, the workers in the area will be familiar with the substance or waste (user knowledge) and will be able to make a positive identification. Other sources of identification information include: SDSs, military specifications, labels, manifests, inventory records, and chemical databases. Whenever possible, container labels shall be preserved to include a complete identification for preparing incident reports. When identification is not possible by these methods, samples shall be collected and analyzed. A detailed description of hazardous waste managed at the Facility is provided in Attachment 1 (Waste Analysis Plan).

15.3 Assessment [Utah Admin. Code R315-8-4.7(c) and (d)]

15.3.1 The IOSC, in coordination with appropriate state, federal, and local authorities, shall assess possible hazards to human health or the environment that may result from a release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire, or explosion. To assist the IOSC in assessing the hazards, the following information shall be considered:

15.3.1.1 Whether the nature of the hazard is known, unknown, or can be reasonably assumed;
15.3.1.2 The degree of toxicity of the material;
15.3.1.3 The presence of toxic, irritating, or asphyxiating gases which may be present as a result of controlling a fire;
15.3.1.4 Containment of a spill or lack of containment;
15.3.1.5 Uncertainty as to the extent of migration of wastes or water used in fire control to either the groundwater or surface water; and
15.3.1.6 The ability of response teams to contain the emergency.

15.3.2 If the IOSC determines that the Facility has had a release, fire, or explosion that could threaten human health or the environment outside the Facility, the IOSC shall report those findings according to paragraphs 15.3.2.1 and 15.3.2.2.

15.3.2.1 If the assessment indicates that evacuation of local areas may be advisable, the OSC shall immediately notify local emergency management agencies. The IOSC shall be available to assist officials to decide whether local areas should be evacuated.

15.3.2.2 The IOSC shall immediately notify the National Response Center (NRC) (800) 424-8802 and the Division. The report shall include:

15.3.2.2.1 The name and telephone number of the person making notification;
15.3.2.2.2 The name and address of the facility;
15.3.2.2.3 The time and type of incident (e.g., spill, fire, explosion);
15.3.2.2.4 The name and quantity of material involved to the extent known;
15.3.2.2.5 The extent of injuries, if any; and
15.3.2.2.6 The possible hazards to human health or the environment outside the facility.

15.4 Response During Off Duty Hours [Utah Admin. Code R315-8-4.3(a), R315-8-4.7]

15.4.1 The spill response procedure for off-duty hours is the same as for normal hours, with the following exceptions:

15.4.1.1 During off-duty hours, the IOSC and Advisory/Support Group are not present, and members or alternates may have to be called or report to the incident site if required by the OSC; and
15.4.1.2 The U.S. Army Health Clinic function will be replaced with a contracted ambulance and EMT crew.

16.0 Spill Mitigation and Cleanup

16.1 Control Procedures [Utah Admin. Code R315-8-4.7(e) and (g)]

16.1.1 Following implementation of the initial response procedures outlined in paragraph 15.3.2. and detailed in the appropriate response plans, steps to control and mitigate the release shall be initiated. Site- specific and material-specific spill response procedures shall be located in each of the hazardous waste storage facilities. General spill control procedures shall be as follows:

16.1.1.1 Stopping the Spill: If possible, the spill flow should be stopped by turning off pumps, closing valves, returning containers to an upright position, patching holes, transferring material to another container, or moving the container to a more secure location.

16.1.1.2 Containment: In all cases, response personnel shall attempt to confine the spill in the smallest area possible using earthen dams, berms, and/or other man-made barricades. Inlets to sewer or storm water systems shall be blocked or bermed. Response personnel shall ensure that drainages are protected. Spill kits containing absorbent material and other containment supplies shall be available in areas where bulk liquids are stored or transferred.

16.1.1.3 Removal: Larger volumes of oil or liquids shall be removed with pumps, if possible. Sorbent materials shall be used to absorb smaller amounts of oil or hazardous

constituents. On water, only floating or retrievable sorbent products shall be used. Director approval is required for the use of either sinking or dispersing agents.

16.1.1.4 Reclamation: When possible, hazardous materials shall be reclaimed and containerized. An attempt shall be made to reclaim and recycle waste oil or other hazardous material/waste. Leaking hazardous waste containers are generally not repaired, but shall be placed into an overpack drum. Various types of emergency leak repair kits are maintained and may be used as a temporary measure until the drum can be properly contained.

16.1.1.5 Storage: Any material recovered from a spill of oil or hazardous substances shall be managed as hazardous waste unless it is analyzed and determined to be non-hazardous. Waste analysis procedures shall be outlined in Attachment 1 (Waste Analysis Plan).

16.1.1.6 Disposal: All oil, gas, or other substances not usable after reclamation shall be characterized and disposed of in accordance with state and federal regulations. Soil contaminated with oil or hazardous materials/wastes shall be removed with hand tools, heavy construction equipment, or both. Contaminated soil shall be assessed to determine appropriate management actions. Disposal alternatives shall conform to appropriate federal and state regulatory requirements.

16.1.1.7 Restoration: The area of contamination shall be restored to its original (pre-spill) condition. Any contaminated soil that is removed shall be replaced by clean fill. Necessary re-vegetation and erosion control measures shall be implemented.

16.1.1.8 Decontamination: All equipment and clothing shall be decontaminated in accordance with decontamination practices described in local standing operating procedures (SOPs). When working with certain hazardous materials/waste, it may be necessary to properly dispose of the hand tools, overshoes, and gloves with the waste. Any equipment used during the response procedures shall be cleaned and fit for its intended use.

17.0 Storage and Treatment of Released Material [Utah Admin. Code R315-8-4.7(g)]

17.1 Any recovered waste, contaminated soil or water, or other material generated as a result of a spill incident and clean-up activities shall be handled and managed as a hazardous waste unless it is analyzed and determined to be non-hazardous. All material shall be properly disposed of in accordance with Division and EPA regulations.

17.2 Soil contaminated with oil or hazardous materials/wastes shall be removed with the appropriate removal equipment, such as hand tools for small removals, or heavy construction equipment (backhoes, scoop loaders, etc.) for larger removals. Contaminated soil will be assessed to determine appropriate management actions.

17.3 Spilled or contaminated material resulting from a hazardous material/waste accident or incident shall be collected immediately, characterized, and placed in appropriate hazardous waste storage units until final disposal.

18.0 Incompatible Waste [Utah Admin. Code R315-8-4.7(h)(1)]

18.1 At no time during a response to an accident or incident shall incompatible materials be stored or transported together. In the event that a waste that is incompatible with wastes or materials already stored at a given location is spilled, the incompatible materials or wastes shall be moved to a temporary location until the spilled waste is completely cleaned-up or neutralized.

19.0 Post-Emergency Equipment Maintenance [Utah Admin. Code R315-8-4.7(h) and (i)]

19.1 After an emergency event, all emergency equipment that was used shall either be cleaned so that it is fit for reuse, or it shall be replaced. The equipment and protective clothing shall be washed with the proper decontamination solution, or discarded and replaced with new equipment or clothing. Before operations resume an inspection of all safety equipment used and decontaminated after the emergency response shall occur. When the inspection is completed, the IOSC shall notify the state and local authorities, and the Major Command of the status of the emergency equipment and the status of the return to normal operations.

20.0 Prevention of Recurrence or Spread of Fires, Explosions, or Releases [Utah Admin. Code R315-8-4.7(e)]

20.1 During an emergency, the IOSC shall implement all measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous materials or wastes at the installation. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

20.2 If a facility on the installation stops operations in response to a fire, explosion, or release, the IOSC shall ensure that all valves or pipes and other related, affected equipment are monitored for potential leaks, pressure build-up, gas generation, and ruptures.

20.3 Some munitions in the permitted storage igloos contain explosives (bursters, propellant, and fuzes). Detonation of an explosively configured munition presents not only a hazard to personnel and property from the blast effects, but also a hazard from the spread of chemical agent. Requirements for safely handling, transporting, and storing ammunition and explosives are described in the following regulations and standards and shall be followed by the Permittee:

- 20.3.1 Local SOPs;
- 20.3.2 Federal Register, 53 FR, 8504-8507;
- 20.3.3 Army Materiel Command Regulation (AMCR) 385-100, Safety Manual;
- 20.3.4 Military Standard (MIL-STD)-882-C, Military Standard System Safety Program Requirements;
- 20.3.5 Technical Manual (TM) 9-1300-214, Military Explosives;
- 20.3.6 Department of Defense Explosives Safety Board (DDESB), Explosive Safety Standard 6055;
- 20.3.7 Army Regulation (AR) 385-64 and Department of Army Pamphlet (DA PAM) 385-64 for explosives.

20.4 An explosion creates a fire hazard as well as hazards from blast effects and projectiles. The IOSC shall respond to fires or explosions occurring in the Facility's hazardous waste storage units, unless the fire/explosion is beyond the capabilities of these two units. For

non-agent-related fires only, local fire departments may be called in to supplement onsite capabilities. Where chemical agents are involved, the TEAD-S FD and Hazardous Materials Team shall respond. In accordance with AMCR 385-100, if a fire involves explosive materials or is supplying heat to explosives, or if the fire is so large that it cannot be extinguished with the equipment at hand, the personnel involved shall evacuate and seek safety. All fire response personnel shall be provided with appropriate protective clothing and safety equipment. Care shall be taken to contain and recover any runoff of waste, water, foams, or chemicals applied to the fire. If possible, the area shall be bermed and/or any run-off drains blocked prior to applying liquids to the fire. Once extinguished, the materials involved in the fire and surrounding area shall be decontaminated (if necessary), recovered, and placed in containers for proper storage and disposal.

20.5 In the event of a fire, the major effort will be focused on preventing the fire from spreading to nearby areas. The following actions will be taken for indoor areas affected by a fire or explosion:

20.5.1 Personnel will close fire doors in buildings;
20.5.2 Work in all areas will be terminated immediately;
20.5.3 The FD and OSC will be contacted;
20.5.4 All personnel not actively involved in fighting the fire will clear the area;
20.5.5 Non-emergency personnel will report to the designated assembly point for a head count; and
20.5.6 All injured persons will be removed and qualified personnel will administer medical treatment.

20.6 If the FD decides that the chances of an explosion are high, the entire area within a 2,000-foot radius of the source will be evacuated. All personnel shall be trained in evacuation procedures and means of exit from their respective work areas as required by Section 25.0 .

20.7 Until evacuation is signaled, personnel who are not in an affected area will stay in their respective work areas. Visitors will be cleared from the area and instructed to report to a designated assembly point. The FD will be responsible for all fire-fighting efforts until help from outside sources arrives. Supervisors of unaffected areas will stay with their personnel and will be ready to evacuate and account for the persons under their supervision.

20.8 An "all clear" signal will be given when the fire has been extinguished, personnel are no longer endangered, and the FD has determined the emergency has passed. All emergency equipment used in the emergency response shall be cleaned and decontaminated.

20.9 Before operations are resumed, the IOSC shall be responsible for conducting an inspection of all safety equipment to ensure that the equipment is fit for future use. When the inspection is completed, the IOSC shall notify the Division, and local authorities, and Major Command that the response operations have been satisfactorily completed. The FD shall also inform the IOSC and the OSC of the status of the emergency equipment and when normal operations can resume.

21.0 Cleanup Resources [Utah Admin. Code R315-8-4.3(d)]

21.1 Tables 4-2 and 4-3 list the equipment available for use during an emergency response at the different waste storage areas at the Facility. All of these resources are available for use by the Regional Response Team (RRT). The IOSC shall coordinate with the installation commander and determine what resources are needed to support the RRT.

Table 4-2: TEAD-S Emergency Heavy Equipment			
Equipment	**Capability**	**Qty**	**Location**
Fire truck-Pumper	750 gallon per minute	1	Fire Station (Bldg. 5010)
Fire truck-brush truck	200 gallon per minute	1	Fire Station (Bldg. 5010)
Ambulance	Medical assistance, evacuation	1	Fire Station (Bldg. 5010)

Table 4-3: Area 10 Emergency Equipment and Supplies			
Equipment	**Capability**	**Qty**	**Location**
Hand Tools	Small spill cleanup: shovels, brooms	AR	Transport Vehicle
Fire Extinguisher	ABC Type	1	Transport Vehicle
Communication Systems	Cellular telephones, hand-held radios	AR	Transport Vehicle
Eyewash	Eye protection	AR	Transport Vehicle
Protective Clothing	Personnel protection	AR	Transport Vehicle
Spill Kit	Spill cleanup	AR	Transport Vehicle
AR: As Required			

22.0 <u>Reporting Requirements</u> [Utah Admin. Code R 315-8-4.7 (d)(2), Utah Admin. Code R315-8-4.7(j), R315-9]

22.1 Personnel working in potential spill site areas shall follow site-specific instruction for reporting spills. These instructions shall be located in each of the hazardous waste storage facilities.

22.2 Telephonic Spill Reporting

22.2.1 The IOSC shall contact the Director or his designee during normal business hours (8 AM -5 PM Monday through Friday) (801) 536-0200. During non-business hours the IOSC shall contact the Utah State Department of Environmental Quality (24-hour Answering Service, 801-536-4123) and the National Response Center (800-424-8802) immediately following the release of a reportable quantity. The contingency plan shall be activated in the event of a spill exceeding the following quantities:

22.2.1.1 One kilogram of any acutely hazardous waste identified in Utah Admin. Code R315-2-11(e). Notification will also be made for a spill of a lesser quantity of acutely hazardous waste if there is a potential threat to human health or the environment.

22.2.1.2 Any spill of P999 and F999 must be reported.

22.2.1.3 One hundred kilograms of other hazardous waste.

22.2.2 The following information shall be required when providing immediate reporting of the spill.

22.2.2.1 Name, phone number, and address of person responsible for the spill (IOSC).
22.2.2.2 Name, title, and phone number of individual reporting.
22.2.2.3 Time and date of the spill.
22.2.2.4 Location of the spill, as specific as possible, including nearest town, city, highway, or waterway.
22.2.2.5 Description of the material and the amount spilled.
22.2.2.6 Cause of the spill.
22.2.2.7 Emergency action taken to minimize the threat to human health and the environment.

22.2.3 Spills occurring during transportation of hazardous waste by air, rail, highway, or water shall be reported as required by Utah Admin. Code R315-9-1.

22.3 Written Spill Reports

22.3.1 Within 15 days after a spill in excess of a reportable quantity, a written report shall be submitted to the Division in accordance with Utah Admin. Code R315-9-4. The written report shall be either hand carried or sent by certified mail or an overnight delivery service, and shall include the following information:

22.3.1.1 Name, address, and telephone number of the IOSC (person reporting the spill);
22.3.1.2 Name, address, and telephone number of the facility;
22.3.1.3 Date, time, and type of incident (e.g., spill, fire, explosion);
22.3.1.4 Name and quantity of material(s) involved;
22.3.1.5 The extent of injuries, if any;
22.3.1.6 An assessment of actual or potential hazards to human health or the environment, when applicable; and
22.3.1.7 An estimate of the quantity and disposition of recovered material that resulted from the incident.

22.4 Reports to the Public

22.4.1 All spill reports submitted to outside agencies will be forwarded through the PAO to the installation commander's office. The IOSC shall maintain copies of written spill reports on file. Spill information for release to the public shall be reviewed by the Depot Systems Command Environmental Office and approved by the installation commander. Information shall be released to the public in accordance with facility guidance. The PAO shall be responsible for providing information to the public.

23.0 Training

23.1 Facility employees responding to an emergency shall be trained in accordance with Attachment 3 (Training Plan).

24.0 Extremely Hazardous Wastes

24.1 Utah Admin. Code lists waste chemical agents and agent-related secondary wastes and residues as acutely hazardous wastes as defined in Utah Admin. Code R315-2-11(e)(1).

Neat waste agents of all types shall be assigned a waste code of P999. Agent-related secondary wastes and residues from all types of agent shall be identified by waste code F999.

24.2 Secondary agent-related hazardous wastes shall be stored in permitted igloos in Area 10.

25.0 Evacuation Procedures and Routes [Utah Admin. Code R315-8-4.3(e)]

25.1.1 In the event of a health-, safety-, or life-threatening accident, the involved facilities shall be evacuated in accordance with the evacuation plan for that location. A steady, continuous alarm with an air horn, siren, or vehicle horn shall indicate that the site is being evacuated. The supervisor of the facility, or an assigned alternate, shall determine the presence or absence of all employees when they have assembled at the waiting area specified by security personnel.

26.0 Arrangements with Local Agencies [Utah Admin. Code R315-8-4.3(b), Utah Admin. Code R315-8-3.7]

26.1 The Facility maintains its own security police force and fire department. These groups shall be the first to respond to an emergency. In addition, reciprocal agreements have been made within local agencies in the region to coordinate emergency services. Medical services have been coordinated with University of Utah Hospital, Mountain West Medical Center, and IHC Health Services, INC. Fire protection agreements have been made with the Tooele City Fire Department, North Tooele County Fire Department, and Stockton Fire Department. Other emergency services have been coordinated through the Tooele City Law Enforcement.

Tooele Army Depot-South Area

Attachment 5
Closure Plan

TEAD-S Closure Plan

1.0 Closure Plan Summary and Closure Performance Standard [Utah Admin. Code R315-3-2.5(b)(13), Utah Admin. Code R315-8-7]

1.1 The Tooele Army Depot-South Area (TEAD-S of Facility) stored chemical munitions for U.S. Department of Defense (DOD) agencies and is managed by the Joint Munitions Command (JMC) of the U.S. Army. Hazardous wastes generated through normal operations are stored in the Facility's permitted hazardous waste management units (HWMUs). HWMUs include:

1.1.1 Igloos once storing recovered chemical warfare material;
1.1.2 Igloos which store other hazardous waste;
1.1.3 Open Burning/Open Detonation (OB/OD) Conex storing waste propellants and explosives.

1.2 A full description of the operational hazardous waste management activities associated with these units is provided in Attachment 12 (Container Management).

1.3 Upon completion of operational hazardous waste management activities, the Facility's hazardous waste management units shall be closed in accordance with the requirements of Utah Admin. Code Rule R315-8-7, and in accordance with this closure plan.

1.4 Facility HWMUs shall be closed to meet the residential or industrial land use requirements of Utah Admin. Code R315-101. The present inventory of wastes at the Facility shall be sent to a permitted, offsite treatment, storage, and disposal facility (TSDF).

1.5 HWMUs managing waste in containers at the Facility, including permitted igloos and the OB/OD Conex, shall be closed in accordance with the requirements of Utah Admin. Code R315-8-9.9 and other conditions described in this attachment.

1.6 Closure of the permitted igloos (excluding the OB/OD Conex) to the residential use standards of Utah Admin. Code R315-101 and shall be accomplished in accordance with the following general steps:

1). Where required, interior air shall be verified < 1 vapor screening level (VSL) concentration prior to start of closure procedures.

2). All remaining hazardous wastes shall be removed and disposed of.

3). Any residual loose material and debris shall be removed from the structure's floor and characterized.

4). The floors shall be decontaminated using a high-pressure, hot-water/decon solution mixture. Spent cleaning solutions generated will be containerized and screened for chemical agent and pH in accordance Attachment 1(Waste Analysis Plan).

5). Final unventilated air-monitoring inside each structure shall be used to verify agent vapor concentration of less than 1.0 general population level (GPL) for three (3) consecutive (NRT) monitoring cycles.

6). Directed (judgmental) sampling of potentially contaminated soils located underneath storage unit floors shall be conducted in accordance with the Closure Sampling and Analysis Plan(s) that will be submitted at the time of closure.

7). If contamination is detected in soil samples above screening levels listed in Table 5-1, a site-specific risk assessment may be conducted, or the igloo may be remediated under Corrective Action as a HWMU, or monitored under a post-closure permit.

Steps 6 and 7 will only be required for igloos and/or storage units in which there were recorded liquid agent or hazardous waste spill(s) which contacted the floor or in units which have an incomplete record of historical agent or hazardous waste exposure.

The closure approach and procedures specific to the OB/OD conex are outlined in Section 4 of this closure plan.

1.7 Monitoring and analytical results shall be evaluated to determine if they meet the closure performance standards presented in Table 5-1, which are protective of human health and the environment. Closure shall follow risk-based closure standards and Table 5-1 presents both residential and industrial levels. The performance standard values presented for chemical agents and EA-2192 are health-based screening levels developed by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) that follow EPA Region IX risk assessment method, and referred to as the health-based environmental screening levels (HBESLs).

The EPA Regional Screening Levels (RSLs) for risk-based closure are proposed for all other chemicals of potential concern (COPCs). The RSL risk method is a multi-pathway risk-based assessment that considers soil ingestion, inhalation of volatiles released from soil, dermal absorption from soil, and inhalation of airborne particulates.

Analytical results for metals may alternatively be evaluated against measured background levels to meet the performance standard for metals.

1.8 A site-specific risk assessment may be conducted to demonstrate closure, as necessary.

Table 5-1:
Closure Performance Standards

COPC[a]	Air Monitoring	CHPPM HBESLs[c] Industrial (mg/kg)	CHPPM HBESLs[d] Residential (mg/kg)	USEPA RSLs[e]	
				Residential (mg/kg)	Industrial (mg/kg)
CHEMICAL AGENTS					
HD	< GPL[b]	0.3	0.019	NA	NA
VX	< GPL[b]	1.1	0.0043	NA	NA
GB	< GPL[b]	32	0.14	NA	NA
GA	< GPL[b]	68	0.29	NA	NA
L	< GPL[b]	3.7	0.045	NA	NA
AGENT DEGRADATION PRODUCTS					
EA2192	NA	1.1	0.0047	NA	NA
IMPA	NA	NA	NA	6,100	62,000
EMPA	NA	NA	NA	3,700	37,000
DIMP	NA	NA	NA	6,300	82,000
MPA	NA	NA	NA	3,700	37,000
Thiodiglycol	NA	NA	NA	5,400	68,000
EXPLOSIVES					
2,4,6-Trinitrotoluene	NA	NA	NA	19	79
HMX	NA	NA	NA	3,800	49,000
RDX	NA	NA	NA	5.6	24
Tetryl	NA	NA	NA	240	2500
METALS[g]					
Arsenic	NA	NA	NA	0.39	1.6
Barium	NA	NA	NA	15,000	190,000
Cadmium	NA	NA	NA	70	800
Chromium (VI)	NA	NA	NA	0.29	5.6
Lead	NA	NA	NA	400	800
Mercury (elemental)	NA	NA	NA	10	43
Mercuric chloride and other salts	NA	NA	NA	23	310
Selenium	NA	NA	NA	390	5,100
Silver	NA	NA	NA	390	5,100
SVOCs					
As determined	NA	NA	NA	see note [f]	see note [f]
VOCs					
As determined	NA	NA	NA	see note [f]	see note [f]

Notes:

[a] Chemicals of potential concern based on contamination history.

[b] The GPLs are $2x10^{-5}$ mg/m^3 for HD, $6x10^{-7}$ mg/m^3 for VX, and $1x10^{-6}$ mg/m^3 for GA and GB, and $3x10^{-3}$ mg/m^3 for L

[c] From the "Reevaluation of 1999 HBESLs for Chemical Warfare Agents, May 2007" more conservative 1999 industrial levels listed.

[d] Residential 2007 HBESLs have been adjusted to reflect a 1E-06 risk level.

[e] EPA RSLs dated June 2011

[f] SVOCs and VOCs will be determined based on contamination characterization. Performance standards will be based on EPA RSLs.

[g] Background levels for metals may be used as an alternate performance standard.

2.0 Partial Closure and Final Closure Activities [Utah Admin. Code R315-3-2.5(b)(13]

2.1 HWMU closure activities at the Facility shall include the removal of all hazardous waste and hazardous waste residues from the HWMUs. The permitted recovered chemical warfare material and hazardous waste storage igloos and the OB/OD Conex shall be managed in accordance with Utah Admin. Code R315-8-9 and shall follow the closure requirements of Utah Admin. Code R315-8-9.9.

2.2 During closure, several activities required by the Facility's permit will end or phase out as waste operations cease and closure of a HWMU begins. These activities include but may not be limited to the following:

- Resource Conservation and Recovery Act (RCRA) inspections
- Chemical Surety and Hazardous Waste Training
- RCRA inventory recordkeeping
- Agent air monitoring
- Monitoring instrument calibrations
- Emergency equipment maintenance
- Safety requirements
- Security requirements
- Signs and placard maintenance

For each HWMU that is not currently in operation, or that is scheduled for closure, a request for terminating the above permit requirements for that HWMU, with specific effective dates, shall be submitted to the Director of the Division of Waste Management and Radiation Control (Director).

2.3 **Supporting Documents**. The following documents provide detailed information regarding decontamination, monitoring and sampling activities to be performed during storage unit closure.

(a) **TEAD-S Facilities and Equipment Decontamination Plan** (reference document). The TEAD-S Facilities and Equipment Decontamination Plan (FEDP) outlines the procedures and requirements for the cleaning and decontamination of potentially agent contaminated storage facilities and the GPL unventilated monitoring tests.

(b) **TEAD-S Closure Sampling & Analysis Plan** (SAP) (reference document). TEAD-S Closure SAP describes the procedures for sampling and analysis required to demonstrate that the Facility's permitted storage units meet the closure performance standard.

(c) **TEAD-S Facility Quality Assurance Project Plan** (QAPP) (reference document). The TEAD-S QAPP outlines the Quality Assurance and Quality Control criteria for analysis of samples identified in the SAP.

(d) **TEAD-S Risk Assumptions Document (RAD).** The RAD describes the risk assessment and natural resource assessment requirements.

3.0 Maximum Waste Inventory [Utah Admin. Code R315-8-7]

3.1 The maximum waste inventory for each HWMU is the maximum permitted waste storage capacity for that unit. Maximum waste inventories for the Facility HWMUs are presented in Table 5-2.

Table 5-2:
Storage Areas Maximum Waste Inventory

Hazardous Waste Management Unit	Number of units, containers, boxes etc.	Storage Capacity per Unit	Total Maximum Waste Inventory
Area 10 Igloos	2 igloos	384, 55-gallon drums per igloo	42,240 gallons
OB/OD Conex	1 Building	440 gallons explosives	440 gallons explosives

3.2 At final closure, all inventories of hazardous wastes stored in containers in the HWMUs listed in Table 5-2 shall be removed and treated onsite, or transported to a permitted, offsite TSDF for disposal.

4.0 Closure Procedures

The following information provides a description of the steps needed to remove all hazardous waste or hazardous constituents, as well as to decontaminate or remove contaminated containment system components, equipment, structures, and soils during partial and final closure.

4.1 Closure Approach

Following equipment and waste removal from each storage unit, an inspection shall be conducted to determine the condition of the floor.

The available historical documentation shall be reviewed to determine if any liquid agent or hazardous waste leaks occurred which contacted the floor and the estimated quantity of each recorded spill.

4.1.1 Storage Igloos (with no Agent liquid exposure)

Storage igloos which have complete storage/agent exposure records which indicate they have had no history of liquid agent exposure shall be cleaned, decontaminated and monitored to less than 1.0 GPL as required by paragraph 1.6, steps 1 thru 5.

4.1.2 Storage Igloos (with Agent liquid exposure).

Igloos which have historical liquid agent exposure, show evidence of liquid agent exposure, or igloos which have incomplete historical storage/exposure records, shall be subjected to the following tiered sampling strategy. The igloo floor shall be inspected for cracks.

(a) Suspect areas shall be monitored (such as stains and cracks where known leaks occurred) to < 1 Worker Protection Limit (WPL).

(b) Floor areas shall be decontaminated by steam cleaning. The spent decontamination solution from this process shall be screened for agent and pH in accordance with Attachment 1 (Waste Analysis Plan).

(c) The igloo shall be air monitored (unventilated) to less than 1.0 GPL.

(d) If floor cracks, joints, or other floor damage exists such that agent or other contaminants could have been transmitted beneath the floor, samples of the soil shall be taken from beneath the igloo floor to determine the nature, concentration and extent of contamination. Soil sample concentrations shall be compared to the closure performance standards listed in Table 5-1. If the soil meets risk-based levels, no further sampling will be required.

(e) If soil samples described in (c) are greater than risk-based levels (or background levels for metals), a site-specific risk assessment may be conducted; or the igloo may be remediated under Corrective Action as a HWMU; or subject to the requirements of a post-closure permit. Additional verification samples may be collected to support decision concerning closure or post closure.

4.1.3 OB/OD Conex.

The OB/OD Conex stored only conventional munitions components and propellants prior to OB/OD disposal.

The OB/OD Conex shall be wipe sampled for explosive/propellant constituents. Wipe results shall be compared to risk-based screening levels for surface wipe samples.

4.2 Unit-Specific Closure Activities [Utah Admin. Code R315-8-7]

4.2.1 Closure activities for each of the Facility's permitted hazardous waste management units shall reflect the specific requirements and considerations appropriate for the types of waste stored in the unit. Hazardous waste and liquids shall be removed. Containers, structures, liquids, and soil shall be removed or decontaminated to below the closure performance standards specified in Table 5-1. If the removal or decontamination efforts are unsuccessful or impractical, a site-specific risk assessment based on remaining COPC concentrations may be conducted to demonstrate closure, or the storage unit will be subject to applicable post-closure requirements.

4.3 Permitted Storage Igloo Closure Activities

Removal of waste munitions from permitted storage igloos and transport of those wastes to an onsite disposal facility was performed during the demilitarization process. Treatment and disposal of non-munition, agent-related wastes stored in storage igloos shall be in accordance with Section 1.4. Following removal of all wastes from the storage igloos, closure will be accomplished as described in Sections 1.6 and 4.1.

4.4 OB/OD Conex

4.4.1 The OB/OD Conex is used to store obsolete and discarded conventional munitions, munition components, and propellant awaiting treatment at the Facility OB/OD treatment units. Contamination of the interior of the OB/OD Conex by D003 hazardous waste residues is unlikely because the reactive fillers of munitions and munitions components are solid, and are either

encased in the munition casing itself or placed into ammunition boxes or propellant cans prior to storage. All residual dusts shall be removed from interior of the OB/OD Conex, and shall be collected and properly disposed.

The OB/OD Conex shall be sampled in accordance with an approved plan for explosive and propellant constituents prior to closure.

5.0 Inventory Removal and Disposal [Utah Admin. Code R315-8-7, Utah Admin. Code R315-8-5]

5.1 Wastes and/or residual wastes that remain following the completion of the Facility's hazardous waste management activities shall be removed from permitted units and managed according to the applicable regulatory requirements and as described in Section 4. Hazardous waste shall be treated and disposed of at a permitted TSDF.

5.2 Hazardous waste to be sent to an offsite TSDF for treatment or disposal shall be prepared in accordance with the requirements of Utah Admin. Code R315-8-5 for manifesting and transporting hazardous waste. A manifest shall be prepared in compliance with the requirements of Utah Admin. Code R315-6-2.20. The pre-transport requirements Utah Admin. Code R315-5will be followed for packaging, labeling, marking, and placarding. The hazardous waste shall be properly packaged in accordance with the Department of Transportation (DOT) regulations in 49 CFR §§ 173, 178, and 179.

6.0 Disposal or Decontamination of Equipment, Structures, and Soils [Utah Admin. Code R315-8-7]

6.1 The Facility's hazardous waste management unit structures and equipment shall be decontaminated in accordance with Sections 1.7 and 4.1. Should it be determined at the time of closure that soil removal or remediation is required; the Closure Plan may be modified to address such issues.

6.2 If, after removing or decontaminating residual materials and making all reasonable efforts to effectively remove or decontaminate contaminated components, sub-soils, structures, and equipment as required by Utah Admin. Code R315-8-9.9 and Utah Admin. Code R315-8-12.6, and the Permittee finds that not all contaminated sub-soils can be practicably removed or decontaminated, then the Permittee shall close the facility and perform post-closure care in accordance with a post-closure plan.

7.0 Closure of Container Storage Units [Utah Admin. Code R315-8-9.9]

7.1 As required by Utah Admin. Code R315-8-9.9, all hazardous wastes and residual hazardous wastes shall be removed from the containment system at closure. Removal of hazardous wastes and residual hazardous wastes shall be performed according to the steps described in Section 4.

7.2 The remaining containers, liners, bases, and soils containing or contaminated with hazardous wastes or residual hazardous wastes shall be decontaminated or removed. Decontamination or removal of the remaining containment system shall be performed according to the steps described in Sections 4 and 6.

8.0 Reserved

9.0 Schedule for Closing [Utah Admin. Code R315-8-7]

9.1 In general, commencement of final closure of the container storage HWMUs described in this plan shall follow the completion of its mission.

In accordance with 40 CFR § 264.112(e), TEAD-S personnel may begin removing hazardous wastes and decontaminating or dismantling equipment in accordance with this attachment before notification of final closure.

10.0 Time Allowed For Closure [Utah Admin. Code R315-8-7]

10.1 The schedule for closure shall include, at minimum, the total time required to close each permitted hazardous waste management unit and the time required for intervening closure activities that shall allow tracking of the progress of partial and final closure.

10.2 For all HWMUs the Permittee shall notify the Director in writing at least 45 days prior to the date on which final closure activities are expected to commence. Notification shall be given to the Director at least 60 days prior to commencement of final closure of the waste pile.

10.3 No shipments of hazardous waste shall be received at a specific Facility hazardous waste management unit after the first day of the unit-specific closure period. Within 90 days of commencing closure of a HWMU, all hazardous waste stored in the HWMU undergoing closure shall be sent off site for management at a permitted TSDF. Partial and final closure activities shall be completed within 180 days of commencing closure of each HWMU. Residual materials identified in storage facilities shall be sampled and analyzed within 30 days of the initiation of closure, and shall be disposed of within 90 days.

11.0 Extensions for Closure Time

11.1 If it is determined that activities associated with the removal of all hazardous waste will require more than 90 days, a request for an extension to complete this activity shall be made at least 30 days before the initial 90-day time period expires. If partial and final closure activities cannot be completed within 180 days following the commencement of closure, a request for an extension to complete the activities shall be made at least 30 days before expiration of the initial 180 days.

12.0 Certification of Closure [Utah Admin. Code R315-8-7]

12.1 Within 60 days of completion of final closure activities and receiving all analytical results for each HWMU, the Permittee shall submit to the Director a closure report including a certification signed by the Depot Commander and an independent registered professional engineer stating that the HWMU was closed in accordance with the Facility's approved closure plan. The certifying engineer shall at a minimum, perform monthly inspections during partial and final closure activities. An inspection log shall be submitted with the closure report.

13.0 Post-Closure & Cost Estimate

13.1 Post Closure Plan [Utah Admin. Code R315-3-2.5(b)(13)]

13.1.1 If the Permittee or the Division determines that post-closure care is required at any of the HWMUs, the Permittee shall prepare a Post-Closure Plan that meets the requirements of Utah Admin. Code R315-8-7.

13.2 A closure cost estimate or financial assurance is not required for the Facility's hazardous waste management units because the federal government is exempted from the financial requirements of R315-8-8.

Tooele Army Depot-South Area
Attachment 6
General Facility Description

General Facility Description [Utah Admin. Code R315-3-2.5, Utah Admin. Code R315-8-2.9]

1.0 General Description [Utah Admin. Code R315-3-2.5(b)(1)]

1.1 Tooele Army Depot (TEAD), located immediately west of Tooele City includes two installations, the TEAD North and South Areas. The TEAD North Area, adjacent to Tooele City, was originally known as the Tooele Ordnance Depot (TOD), and functioned as a storage depot for World War II supplies, ammunition, and combat vehicles. In 1949, TOD assumed command of the South Area. In 1962, following a transfer to a new command, the TOD was re-designated the TEAD. The South Area was later realigned under the U.S. Army Chemical and Biological Defense Command (now the US Army Chemical Materials Activity (CMA)) and re-designated the Deseret Chemical Depot (DCD). In 2013 DCD's mission was completed and the facility was transferred back to TEAD and became the Tooele Army Depot-South Area (TEAD-S).

1.2 The primary mission of TEAD-S (the Facility) for the storage and demilitarization of chemical warfare agents has been completed. This permit has been modified to reflect these changes. This permit is specifically for the storage of hazardous wastes at the Facility. The general types of hazardous wastes stored at the Facility shall be:

1.2.1 Waste Munitions;
1.2.2 Waste from corrective action cleanup program;
1.2.3 Waste from industrial activities including vehicle and equipment maintenance;

1.3 The Facility is located approximately 12 miles south of Tooele City in Tooele County, Utah. Figure 6-1, Tooele Army Depot-South Area-General Site Topographic Map, shows the general layout of the Facility, including permitted storage facilities, topographic contours, and other physical site characteristics. SWMU locations are shown in Figure 6-2, Tooele Army Depot-South Area-SWMU Location Map. The following is a general description of the processes that generate hazardous waste at the Facility.

Figure 6-1 General Site Topographic Map

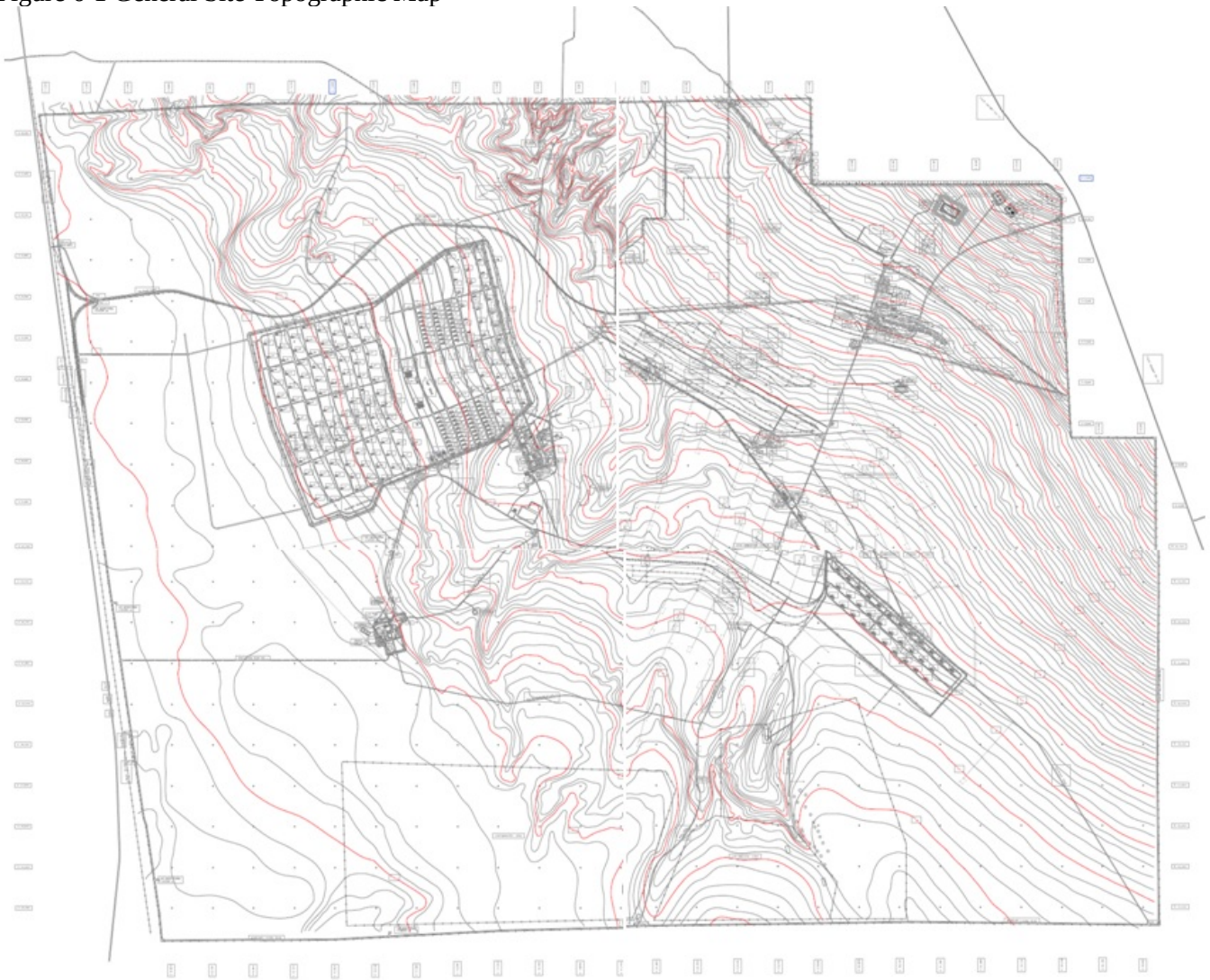
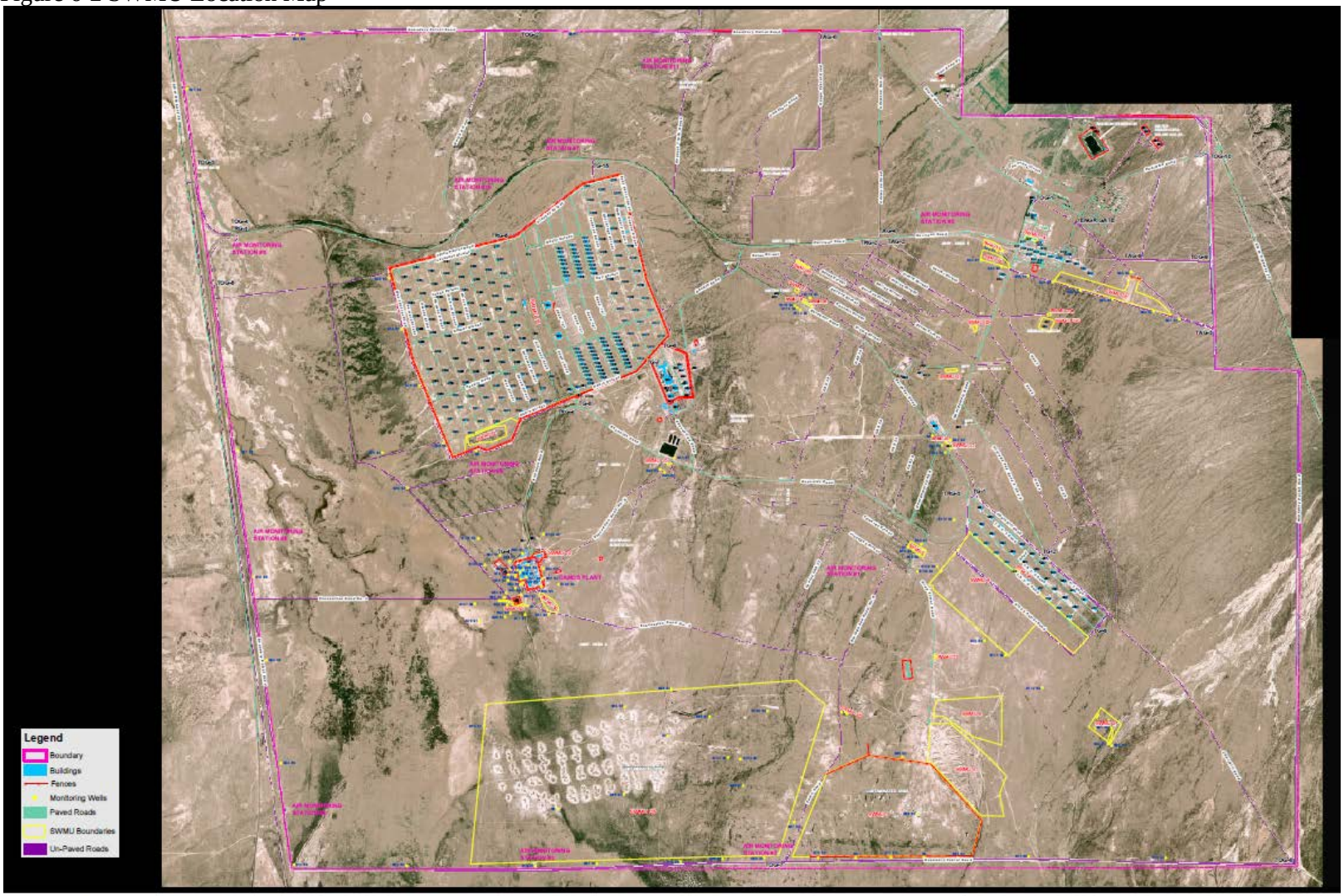


Figure 6-2 SWMU Location Map



2.0 Reserved

3.0 Reserved

4.0 Environmental Restoration and Decontamination Operations

4.1 The Facility has ongoing environmental restoration projects. These projects include monitoring well installation and Resource Conservation and Recovery Act (RCRA) corrective actions that generate investigative wastes (e.g., drill cuttings, used PPE, purge water). Environmental restoration activities bring equipment and vehicles into contact with contaminated media such as soil and groundwater. Equipment and vehicles used for these projects are decontaminated, generating waste decontamination solutions. Investigative wastes and waste decontamination solutions shall be contained, labeled, and disposed of according to Division and EPA regulations.

5.0 Miscellaneous Operations

5.1 A variety of other operations generate small quantities of hazardous wastes, including paints, adhesives, solvents, and spent filters from used gas masks. Additional items may occasionally be generated. In these instances, the Permittee shall either submit a permit modification to add such items to their permit, or the items shall be stored in an onsite storage area and properly disposed of.

5.2 SWMUs are areas in which solid and hazardous wastes may have been placed or released. A number of SWMUs have been identified at the Facility during the RCRA Facility Assessment and subsequent field investigations at the Facility.

6.0 Overview of the Storage Process

6.1 Hazardous wastes managed at the Facility can be divided into two categories: agent-related wastes and non-agent-related wastes.

6.2 Agent-related wastes include agent-contaminated materials, such as decontamination solutions. Waste bulk items, and agent-related wastes shall be managed in accordance with the Utah Admin. Code.

6.3 Permitted storage areas store agent-related waste and non-agent-related waste.

6.4 Attachment 1, Table 1-1-1, RCRA Hazardous Waste Designation and Rationale and Table 1-1-2, Hazardous Waste Streams and Storage Areas identifies hazardous wastes stored at the Facility's hazardous waste management units, their associated waste codes, and provides a brief discussion about the hazardous wastes. More detailed descriptions of the Facility hazardous waste management units appear in Attachment 12 (Container Management) which describes container management.

7.0 Agent-Related Hazardous Waste Generated and Stored

7.1 The Utah Admin. Code lists waste chemical agents and agent-related secondary wastes and residues as acutely hazardous wastes as defined in Utah Admin. Code R315-2-10(e)(1) and Utah Admin. Code R315-2-11(e)(1). Neat waste nerve, military and chemical agents of all types shall

be assigned a waste code of P999. Residues from the demilitarization, treatment and testing of all types of nerve, military and chemical agent shall be assigned a waste code of F999.

8.0 Agent-Related Wastes

8. 1 Wastes contaminated with agent shall be stored in igloos permitted for storage of hazardous waste. Wastes may include metal parts, energetic components, dunnage, used PPE, charcoal, and other absorbents and filters. Storage requirements and configurations are identified in Attachment 12 (Container Management).

8.2 Non-Agent-Related Hazardous Wastes Generated and Stored

8.2.1 Non-agent-related hazardous wastes are generated at the Facility during the performance of remediation activities and industrial support activities such as building maintenance, small construction projects, and office operations. Non-agent-related hazardous wastes are segregated in containers by compatibility, and are transported to and stored at onsite storage facilities before being transferred to an approved offsite Treatment, Storage, and Disposal Facility (TSDF). Alternatively, they are transported to and stored at a permitted hazardous waste storage unit to await transfer to an approved offsite TSDF.

9.0 Topographic Map [Utah Admin. Code R315-3-2.5(b)(19)]

9.1 Figure 6-1, General Site Topographic Map, shows surface water features, fence lines, and roads. It also depicts the primary Facility access point, the Facility's legal boundaries, and area topography in accordance with the requirements of Utah Admin. Code R315-3-2.5(b)(19).

10.0 Water-Related Features

10.1 The Facility is located in the Rush Valley, a basin located in the basin and range region of the western United States. The topography of the drainage basin is generally smooth and uniform, sloping to the southwest from the facility to the Rush Valley floor. The valley floor drains northwest to Rush Lake, approximately 11 miles from the facility. Few well-defined natural drainage channels exist in the Facility vicinity. The soils are permeable and can easily absorb the 100-year precipitation event, expected to be about 3.2 inches. Ponding or pooling of runoff waters does not generally occur. The Great Salt Lake, located approximately 75 miles from the Facility, is about 850 feet lower in elevation than the Facility.

11.0 Surrounding Land Uses

11.1 The Facility is surrounded mostly by federally owned land, administered by the Bureau of Land Management, some State of Utah owned land and some privately owned land. There are no injection or withdrawal wells within the boundaries of the permitted container storage units.

12.0 Wind Rose

12.1 A wind rose for the Facility is shown in Figure 6-4. The wind rose indicates a prevailing wind speed from the southeast greater than 5.1 mph for more than 16% of the recorded period. Wind comes from the northwest at about 1.5 to 3.1 mph for about 12% of the recorded period.

13.0 Reserved

14.0 Regional Hydrology, Geology, Meteorology, and Land Use [Utah Admin. Code R315-3-2.14(b)]

14.1 Geology

14.1.1 The Facility is located in the basin and range physiographic province that extends from western Utah to California and from southeastern Oregon to Arizona. Basin and range geology is characterized by alternating parallel zones of uplifted and down-dropped fault blocks, which are known as horsts and grabens, respectively, and typically result from a period of regional tectonic extension. Uplifted horsts form mountain ranges that surround the down-dropped basins.

14.1.2 The valley in which the Facility is located, the Rush Valley, is a graben feature and is bounded by uplifted horst features of the Stansbury Range to the west and the Oquirrh Range to the east, both of which rise steeply from the valley floor. As is typical of basin and range geology, the boundary between the Rush Valley basin and adjacent mountain ranges is defined by one or more normal faults, which are indicative of the extensional forces that resulted in the current structural geology of the area. The northern terminus of the Rush Valley is defined by South Mountain, which has a much smaller vertical rise than the major ranges to the east and west, but still effectively blocks any runoff to the north. From the Facility, the Rush Valley extends south for many miles.

14.1.3 The stratigraphy of the Rush Valley basin is generally composed of a series of alluvial fans interbedded with evaporite deposits. The alluvial fans are outwash features from the surrounding mountain ranges. Due to the steep gradient of the mountainsides, the alluvial fans often extend thousands of meters into the basin. Evaporite deposits consist primarily of evaporite minerals such as halite and gypsum and are a common feature in closed basins of the Western U.S. At one time, these deposits were minerals dissolved in precipitation runoff that periodically accumulates in depressions within the Rush Valley. As the accumulated water evaporates, the minerals remain to form deposits on the valley floor. With time, alluvial fans cover the deposits, resulting in the interbedded stratigraphy seen today. The soft sediments of the valley are underlain by crystalline basement rock at great depth.

14.1.4 The topography of the Rush Valley is generally flat, but with low-lying ridges, swales, and gulleys interspersed throughout the valley floor. The Facility occupies a small rise on the east side of the valley. The eastern boundary of the facility is roughly one-eighth mile west of the toe of the Oquirrh Range mountain front. Across the Facility, the surface slopes gently downward to the west and north to the north-south trending centerline of the Rush Valley floor. The valley floor is nearly flat in the vicinity, with a slight gradient to the north toward Rush Lake and South Mountain.

14.2 Meteorology and Hydrology

14.2.1 The climate of the Rush Valley is extremely arid, with very low annual precipitation and high evapotranspiration. Refer to Figure 6-4 for a wind rose that illustrates prevailing wind directions.

14.2.2 The valley floor drains northwest to Rush Lake, which is approximately 5 miles from the Facility. A few well-defined natural drainage channels exist on the eastern side of the Facility. These channels are products of the erosion that results from sporadic flash flood events on the western flanks of the Oquirrh Range. The soils are permeable and can easily absorb the 100-year precipitation event, expected to be about 3.2 inches. Ponding or pooling of runoff generally does not occur at the Facility. Virtually all precipitation or runoff evaporates or infiltrates into the soil.

A small amount of infiltrated water percolates into deep aquifer storage, although most remains in shallow groundwater systems and eventually discharges into Rush Lake at the north end of Rush Valley. The only way that water is naturally removed from Rush Valley is via evapotranspiration.

14.3 Land Use

14.3.1 The Facility is a military facility operated by the US Army Joint Munitions Command (JMC). The installation is surrounded by some state-owned land, some privately owned land, but mostly by federally owned land administered by the Bureau of Land Management.

14.4 Seismic Standard [Utah Admin. Code R315-3-2.5(b)(11)(i)-(ii), Utah Admin. Code R315-8-2.9(a)]

14.4.1 TEAD-S is an existing facility and as such is exempt from compliance with seismic standards.

14.5 Floodplain Standard [Utah Admin. Code R315-3-2.5(b)(11)(iii)-(iv), Utah Admin. Code R315-8-2.9(b)]

14.5.1 No Federal Insurance Administration 100-year floodplain maps of the Facility exist. Nonetheless, it has been determined that the Facility is outside of the 100-year flood plain and not subject to flooding. No floods have occurred at the Facility during the more than 70 years it has been in existence and there is no history of flooding in the area, so a 100-year flood in the vicinity of the Facility would be insignificant. The overall drainage gradient for the Facility is 1 percent or greater. The southeastern corner of the Facility, which is the lowest elevation point within the Facility, is 35 to 40 feet higher in elevation than Rush Lake, which would be the accumulation point of floodwaters in the Rush Valley.

14.6 Traffic Patterns [Utah Admin. Code R315-3-2.5(b)(10)]

14.6.1 Access to the Facility is via State Highway 198, connecting State Highway 73 to the main (north) gate; and via State Highway 73 directly, connecting to Doolittle Road and the east gate (Figure 6-1). Both State Highways are two-lane, undivided, asphalt concrete roads zoned at 55 mph. Neither highway is heavily traveled. The intersections of Highways 73 and 198 and Doolittle Road and Highway 73 are simple interchanges with no left turn lanes or traffic islands. Traffic control at the Highway 73/198 interchange is via a yield sign on Highway 198. Traffic control at the Doolittle Road /Highway 73 intersection is via a yield sign on Doolittle Road.

14.6.2 In the past, the Facility's west gate has been used for munitions shipments. Presently, no traffic is allowed through the west gate and the gate is kept locked except for emergencies. State Highway 36 is a two-lane, undivided, asphalt-concrete road. The Highway 36 / Harrison Road intersection is a simple interchange with traffic control via a yield sign on Harrison Road.

14.6.3 Generally all traffic, including government vehicles, commercial carriers, and privately owned vehicles, follows the primary traffic route. Only security vehicles, conventional munitions transportation vehicles, and maintenance vehicles travel off the primary route.

14.7 Estimated Traffic Volume

14.7.1 Vehicle traffic on the Facility property is variable and changes depending on the activities taking place at the Facility.

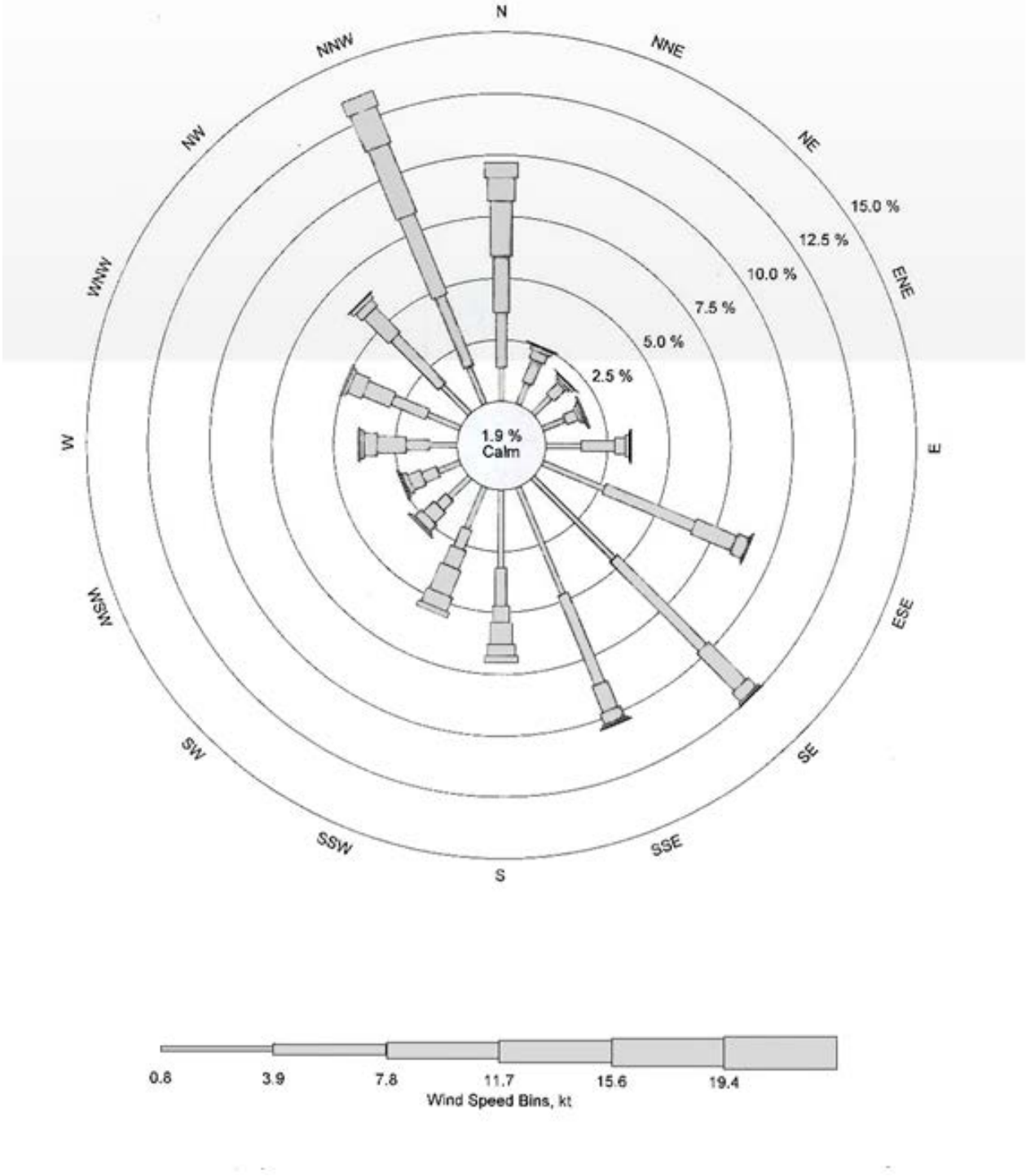
14.8 Traffic Control

14.8.1 Due to low volume of traffic at the Facility, traffic control measures are simple. Speed is restricted to 30 mph unless otherwise posted, 20 mph is posted in building and office areas, and 40 mph is posted for most of the primary traffic route. All blind or hazardous turns are marked and posted at reduced speeds. Yield signs control traffic at all major intersections. All railroad grade crossings are marked with signs. Traffic control enforcement is by security personnel.

14.9 Road Surfacing and Load Bearing Capacity

14.9.1 In general, all main routes to the HW management units are asphalt/concrete bituminous. Secondary roads are gravel or earthen. All roads at the Facility are designed for a maximum load-bearing capacity of 18,000 lbs per axle.

Figure 6-4: Wind Rose



Windrows: Based on weather data from the installations Tower 9 (centrally located on the installation for the period 01/01/01 through 12/31/01

Tooele Army Depot-South Area
Attachment 7
Reserved

Tooele Army Depot-South Area
Attachment 8
Reserved

Tooele Army Depot-South Area
Attachment 9
Security Plan

Security Plan

1.0 Security

1.1 Security Procedures and Equipment [Utah Admin. Code R315-3-2.5(b)(4)]

1.1.1 This section describes the procedures and equipment that shall be used to prevent the unknowing entry, and to minimize the possibility for unauthorized entry, of persons onto the Tooele Army Depot-South Area (TEAD-S or Facility) installation. Security methods include barriers, an entry control system, and warning signs. Security procedures and equipment used at the Facility shall be in compliance with Utah Admin. Code.

2.0 24-hour Surveillance System [Utah Admin. Code R315-8-2.5(b)(1)]

2.1 The Facility employs a uniformed civil service security guard force to provide surveillance of the Facility and to restrict the entry of unwanted or unauthorized visitors. All patrols are motorized, equipped with communications equipment, and are assigned specific areas to patrol. At a minium patrols shall:

2.1.1 Check for intrusion or security violations;
2.1.2 Check locks, fence lines, building security, and other areas within their patrol;
2.1.3 Challenge all persons entering or exiting the areas who may act suspicious, who are not carrying proper identification, or who are without required escorts;
2.1.4 Report all incidents to the Field Supervisor; and
2.1.5 Perform specific duties outlined in the daily log for that patrol area.

3.0 Barriers [Utah Admin. Code R315-8-2.5(b)(2)(i)]

3.1 The Facility is entirely surrounded by an eight-foot, multi-strand, barbwire fence with secured gates. Clear zones are maintained on either side of the fence where possible. Gates in the perimeter fence are controlled by security personnel. Proper personal and vehicle identification is required for entry and exit.

3.2 All permitted units are locked when not in use. Visitors entering permitted units shall be escorted while inside the building.

3.3 Additional fencing and related security measures shall be maintained at Area 10.

4.0 Means to Control Entry [Utah Admin. Code R315-8-2.5(b)(2)(ii)]

4.1 Access to the Facility is via State Highway 198, connecting State Highway 73 to the main (north) gate; and via State Highway 73 directly, connecting to Doolittle Road and the east gate (Figure 6-1). On the access road, signs shall be posted to notify visitors they are entering a military installation. The main entrance road takes personnel and visitors to a security gate. All visitors and unregistered vehicles are challenged at the gate. Visitor passes are required. Passes are obtained from the security personnel at the security gate before proceeding. All other gates within or around the perimeter of the Facility shall bekept locked.

4.2 Container storage buildings shall be locked at all times except when personnel are working in the individual buildings. Entry shall be possible only through the normally locked doors. Only personnel trained in handling hazardous waste shall have access to building keys.

4.3 Means to control entry at Area 10 shall be equal to or exceed those applied to the Facility as a whole. Igloos shall be secured at all times, except when personnel are working in an individual unit.

5.0 Warning Signs [Utah Admin. Code R315-8-2.5(c)]

5.1 Warning signs shall be posted on the main access road informing all vehicle drivers that they are entering a military installation. Warning signs identifying the Facilty as a Department of Defense facility and listing the penalties for trespassing or unauthorized entry shall be posted every 1/10-mile on the perimeter fence line. Signs indicating that only entry of authorized personnel is permitted and entry into the area is potentially dangerous shall be located on the perimeter fence and on all other active permitted storage units.

Tooele Army Depot-South Area
Attachment 10
Preparedness and Prevention Plan

Preparedness and Prevention Plan

1.0 Site wide Preparedness and Prevention Procedures

1.1 Overview

1.1.1 Regulatory Requirements

1.1.2 This attachment describes the procedures to prevent hazards in Tooele Army Depot-South Area (TEAD-S or Facility) permitted hazardous waste storage areas. The security procedures are described in Attachment 9 (Security Plan). Attachment 10 (Preparedness and Prevention Plan) shall meet the requirements of Utah Admin. Code R315-3-2.5(b)(4), (5), (8), and (9), and Utah Admin. Code R315-3-2.6(c) and (d) as well as Utah Admin. Code R315-8-2.5, Utah Admin. Code R315-8-2.6, Utah Admin. Code R315-8-2.8, Utah Admin. Code R315-8-3.3, Utah Admin. Code R315-8-3.4, Utah Admin. Code R315-8-3.5, Utah Admin. Code R315-8-3.6, Utah Admin. Code R315-8-9.5, Utah Admin. Code R315-8-9.7, Utah Admin. Code R315-8-9.8; Utah Admin. Code R315-8-22; the Facility Standing Operating Procedures (SOPs); and other plans identified in Attachement 4 (Contingency Plan). The SOPs and plans contain information on the program or facility-specific procedures to prevent hazards. The procedures relative to the Permit are summarized below.

2.0 Waiver or Documentation of Preparedness and Prevention Requirements [Utah Admin. Code R315-3-2.5(b)(6), Utah Admin. Code R315-8-3.3, Utah Admin. Code R315-8-3.6]

2.1 The Permittee is requesting no waivers for the preparedness and prevention requirements of Utah Admin. Code R315-3-2.5(b), Utah Admin. Code R315-8-3.3, or Utah Admin. Code R315-8-3.6. The Facility's hazardous waste management units shall be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned discharge of hazardous waste or hazardous waste constituents that could threaten human health or the environment.

3.0 Inspection Schedule [Utah Admin. Code R315-3-2.5(b)(5), Utah Admin. Code R315-8-2.6(b), Utah Admin. Code R315-8-5.3]

3.1 The permitted storage structures, equipment, and containers within the Facility's hazardous waste management units shall be inspected regularly and frequently in accordance with Attachemnt 2 (Inspection Plan).

4.0 Reserved

5.0 Reserved

6.0 Reserved

7.0 Reserved

8.0 Reserved

9.0 Reserved

10.0 Reserved

11.0 Reserved

12.0 Reserved

13.0 Equipment Requirements [Utah Admin. Code R315-8-3.3, Utah Admin. Code R315-8-3.4, Utah Admin. Code R315-8-3.5]

13.1 The following sections address the equipment required by Utah Admin. Code R315-8-3.3 through Utah Admin. Code R315-8-3.5.

13.2 Internal Communications [Utah Admin. Code R315-8-3.3(a), Utah Admin. Code R315-8-3.4, Utah Admin. Code R315-8-3.5]

13.2.1 In all the Faciliy's hazardous waste management units, internal communications and alarm signals shall be achieved primarily by voice, since all units are small enough for voice communication to be effective. Two-way radios shall be available for communications between Facility security and employees working at Area 10 waste storage igloos. At units outside of Area 10, sounding a vehicle horn may also be used as an alarm signal.

13.3 External Communications [Utah Admin. Code R315-8-3.3(b), Utah Admin. Code R315-8-3.4, Utah Admin. Code R315-8-3.5]

13.3.1 All personnel entering and working within a hazardous waste management unit shall carry a communication device capable of summoning external assistance in an emergency. Employee teams working at the Open Burning/Open Detonation (OB/OD) Conex shall be equipped with a communication device capable of summoning external assistance. Facility communications equipment shall be tested weekly to ensure proper function.

13.4 Emergency Equipment [Utah Admin. Code R315-8-3.3(c), Utah Admin. Code R315-8-3.4]

13.4.1 Emergency equipment identified in Attachment 4 (Contingency Plan) shall be maintained at the Facility to respond to emergency situations. The Fire Department shall be equipped with fire trucks and equipment for extinguishing fires and responding to chemical agent or other hazardous material spills. Fire extinguishers shall be located in transport vehicles when working at all permitted hazardous waste storage sites.

13.4.2 The Facility shall maintain supplies of personal protective equipment (PPE) and shall be equipped with a transport vehicle. Fire control, spill control, and a portable eyewash shall be kept on a transport vehicle and brought to the hazardous waste storage location where activities are being performed. When work is being performed at the OB/OD Conex, fire control equipment shall be staged onsite in a vehicle. A spill kit shall also be permanently maintained at the OB/OD Conex (when in use).

13.4.3 Emergency equipment at all Facility hazardous waste management units shall be inspected weekly, and shall be ready for immediate deployment in the event of an incident or accident. Available equipment for spill cleanup shall listed in Attachment 4 (Contingency Plan).

13.5 Water for Fire Control [Utah Admin. Code R315-8-3.3(d)]

13.5.1 The Facility Fire Department shall maintain a 750-gallon per minute (gpm) pumper truck and a brush truck with a 200-gallon tank to fight fires. A fire hydrant is located about 4,800 feet from the OB/OD Conex. Fire hydrants are located approximately 500 to 4000 feet from the Area 10 igloos. Small fires will be fought with fire extinguishers carried on all vehicles.

13.6 Aisle Space Requirements [Utah Admin. Code R315-8-3.6]

13.6.1 Proper aisle space shall be maintained for all hazardous waste storage areas to allow unobstructed movement of personnel, materials handling equipment (MHE), and spill control and decontamination equipment.

13.6.2 A minimum aisle space of 2.5 feet shall be maintained in the Area 10 storage igloos. Sufficient aisle space shall be maintained at the OB/OD Conex to allow for inspections and use of fire and spill control equipment.

13.7 Management of Ignitable or Reactive Wastes in Containers [Utah Admin. Code R315-3-2.6(c), Utah Admin. Code R315-8-9.7]

13.7.1 Containers holding ignitable or reactive waste shall be stored in permitted storage areas located within Area 10 or the OB/OD Conex. These permitted storage areas exceed the requirement for containers to be more than 50 feet from the property line of the installation.

13.8 Management of Incompatible Waste in Containers [Utah Admin. Code R315-3-2.6(d), Utah Admin. Code R315-8-9.8]

13.8.1 Incompatible wastes and materials shall not be placed in the same container or stored near other containers of incompatible wastes. Storage compatibility criteria, as described in 49 CFR Part 177 Subpart C Department of Transportaion (DOT) Hazard Class (Division), shall be used when segregating wastes. No incompatible wastes shall be stored on the same pallet in permitted Facility hazardous waste storage units. Drums that have previously held hazardous waste shall not be re-used to store wastes or materials that are incompatible with that previously held.

14.0 <u>Area 10, Container Storage</u> [Utah Admin. Code R315-8-9.1 through 9.10]

14.1 General Information

14.1.1 The Facility stores secondary wastes derived from chemical munitions operations and other hazardous wastes that are generated in the course of normal facility operations.

15.0 <u>Emergency Equipment</u> [Utah Admin. Code R315-8-3.3(c), Utah Admin. Code R315-8-3.4]

15.1 Emergency equipment available for use in Area 10 is listed in Table 4-3, "Area 10 Emergency Equipment and Supplies" located in, Attachment 4 (Contingency Plan).

16.0 <u>Operating Requirements</u>

16.1 Hazardous waste storage requires many different management practices to ensure safe operations and protection of the environment. Local SOPs describe procedures for packaging agent-related waste, and the Facility HWMP describes procedures for non-agent-related hazardous wastes, labeling containers, and performing waste inventories. Other management practices related to waste munition storage and handling are provided in the current Department of Defense

Explosives Safety Board (DDESB) storage standards. Containerized hazardous wastes shall be managed according to Utah Admin. Code R315-8-9.

16.2 The Facility property line is well over the required minimum 50-foot distance from the nearest permitted storage building or igloo, so ignitable or reactive waste may be stored in these facilities in compliance with Utah Admin. Code R315-8-9.7.

16.3 An Operating Record shall be maintained for the life of the facility that specifies the location of each waste container and correlates waste analysis results to waste containers, as required by Utah Admin. Code R315-8-5.3. The contents of leaking or damaged containers shall be repackaged in RCRA-compliant containers. Headspace shall be left in all containers storing volatile liquid to avoid damage caused by expansion or contraction of wastes because of temperature changes.

16.4 Container Management

16.4.1 Container management activities in permitted storage igloos shall include visual inspections, labeling and inventorying containers in use, and over packing leaking containers.

16.4.2 No igloo storing munitions shall exceed the design and DDESB-designated quantities (net explosive weight) for munitions stored in the igloo. Munitions shall be stored in accordance with approved storage drawings for orientation of items and in accordance with the Facility permit.

16.4.3 A MHE aisle shall be maintained along the centerline within the storage igloos to facilitate inspections and movement of personnel around stacks. The MHE aisle shall allow movement of fire protection and decontamination equipment in case of emergencies. A 2.5-foot aisle space shall be maintained between palletized waste munitions and between rows of pallets in the permitted storage igloos. Different munition lots stored in the same igloo shall be separated by rows or other spacing or shall be identified by tags or signs. The igloos shall be closed and access shall be limited to authorized personnel. Storage management practices shall require that all containers be stored on pallets and that containers shall not be stacked.

16.4.4 A hazardous waste label shall be placed on each container or pallet with the following information:

16.4.4.1 Waste Stream Number,
16.4.4.2 Nomenclature,
16.4.4.3 Date of accumulation, and
16.4.4.4 Facility Information.

16.4.5 The Permittee shall perform all inspections in accordance with Attachment 2 (Inspection Plan) and appropriate Facility SOPs. Visual inspections shall be employed to detect liquid spills.

17.0 <u>Preventive Procedures, Structures, and Equipment</u> [Utah Admin. Code R315-3-2.5(b)(8)]

17.1 Loading and Unloading [Utah Admin. Code R315-3-2.5(b)(8)(i)]

17.1.1 Hazards associated with handling, loading, and unloading operations shall be minimized through the implementation of Facility SOPs. Hazards shall also be minimized by personnel receiving the proper training as required Attachment 3 (Training Plan). Hazardous waste containers shall be inspected prior to movement to make sure they are properly closed and tightly sealed. Containers

shall be transported on pallets and loaded and unloaded with a forklift. One or more spotters shall be used when hazardous waste is moved at any Facility hazardous waste management unit. Ramps facilitate movement of MHE in and out of storage units.

17.2 Runoff [Utah Admin. Code R315-3-2.5(b)(8)(ii)]

17.2.1 Permitted storage igloo structures shall be totally enclosed, weather-tight, and above exterior grade.

17.3 Protection of Water Supplies [Utah Admin. Code R315-3-2.5(b)(8)(iii)]

17.3.1 Contamination of water supplies shall be prevented at the Facility by minimizing the risk of discharge of hazardous waste. This shall be accomplished by proper inspection and maintenance of hazardous waste containers, including mitigation of leaking containers, prompt cleanup of any spills, and proper construction and maintenance of storage structures. Personnel shall be properly trained and equipped to handle hazardous wastes in both normal and emergency situations.

17.4 Mitigation of Equipment and Power Failures [Utah Admin. Code R315-3-2.5(b)(8)(iv)]

17.4.1 Area 10 permitted storage igloos do not require power for normal operations. Portable generators shall be used for special operations requiring power. If the generators or any other special equipment fails during operations, the activity shall be suspended until the equipment is repaired or replaced. Emergency backup generators shall provide power for surveillance systems in the event of a power outage. The Facility has numerous emergency portable generators to provide backup for any operations requiring emergency power.

17.5 Personal Protective Equipment (PPE)[Utah Admin. Code R315-3-2.5(b)(8)(v)]

17.5.1 Various levels of PPE are worn to protect workers from chemical exposure at the Facility. Stocks of PPE appropriate for all hazardous materials managed at the Facility shall be maintained onsite.

17.5.2 The potential for exposure of personnel to any hazardous materials during operations shall be minimized through monitoring and decontamination of PPE and other equipment before, during, and after use in an area known to be contaminated or potentially contaminated. Facility SOPs or health and safety plans shall be used to prepare PPE for either reuse or storage for eventual disposal.

17.6 Prevention of Reaction of Ignitable, Reactive, or Incompatible Waste [Utah Admin. Code R315-3-2.5(b)(9), Utah Admin. Code R315-8-2.8]

17.6.1 All wastes stored at the Facility that are listed as ignitable or reactive shall be protected from sources of ignition or reaction (e.g. open flames, smoking, welding, radiant heat, or heat from friction, sparks, spontaneous ignition, etc.). Fusible links shall be used that close igloo ventilation dampers in the event of high temperatures, thereby minimizing the danger from fire. Attachment 1 (Waste Analysis Plan) lists ignitable or reactive wastes stored at the Facility which include spent high efficiency particulate air filters, paint residues, and degreasing solvents. All hazardous wastes, not just the ignitable or reactive wastes, shall be protected from ignition sources. Ignitable waste shall not be stored in Area 10.

17.6.2 To prevent accidental ignition or reaction caused by a lightning strike, the permitted storage igloos are protected with a lightning protection system. The air terminal (lightning rod) on the

rear vent stack is placed at least one foot higher than the top of the vent. Grounding rods are also attached to the igloos.

17.6.3 Smoking and spark-producing devices shall not be allowed in units storing waste. Automatic lighters are installed in permitted smoking areas. No smoking signs shall be posted at the entrance of Area 10. The Fire Department shall issue hot work permits for all operations that involve spark- or flame-producing operations.

17.6.4 A list of ignitable (D001) and reactive (D003) wastes stored in permitted storage areas is provided in Attachment 1 (Waste Analysis Plan), Table 1-1-1, RCRA Hazardous Waste Designation and Rationale. Precautions shall be taken with regard to storage to ensure that ignitable and reactive wastes are not exposed to ignition sources or other conditions that could initiate a reaction. Containers storing incompatible wastes at the Facility shall be segregated, and incompatible wastes shall not be mixed. No Smoking signs shall be posted at the entrance to Area 10 and all other permitted hazardous waste units. Workers shall be trained annually in proper handling and storage of hazardous waste as required by Attachment 3 (Training Plan). Training for Facility employees shall provide instruction for proper handling and protection from sources that could ignite or cause a reaction with munitions. The training for employees shall also provide instruction on the proper handling of munitions and related waste. General safety requirements in Facility SOPs, reviewed with employees, shall provide instructions for properly handling munitions.

18.0 Inspection and Maintenance [Utah Admin. Code R315-3-2.5(b)(5), Utah Admin. Code R315-8-2.6(b), Utah Admin. Code R315-8-5.3;

18.1 Frequency of facility inspections are defined in Attachement 2 (Inspection Plan) and are based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections.

19.0 Reserved

20.0 Reserved

21.0 Reserved

22.0 Reserved

23.0 Reserved

24.0 Reserved

25.0 Reserved

26.0 Reserved

27.0 Open Detonation / Open Burning Conex

27.1 General Information

27.1.1 The OB/OD Conex is located in the OB/OD area of the Facility. The purpose of the OB/OD Conex shall be to store conventional munitions that have been designated as hazardous waste prior to treating them in the OB/OD area.

27.2 Emergency Equipment

27.2.1 A spill kit is stored at the OB/OD Conex.

27.2.2 A fire hydrant is located about 4,800 feet from the OB/OD Conex. Small fires shall be fought with fire extinguishers carried on all vehicles.

27.3 Operating Requirements

27.3.1 Reserved.

27.4 Preventive Procedures, Structures, and Equipment [Utah Admin. Code R315-3-2.5(b)(8)]

27.5 Loading and Unloading [Utah Admin. Code R315-3-2.5(b)(8)(i)]

27.5.1 Hazards associated with handling, loading, and unloading operations shall be minimized through the implementation of Facility SOPs. Hazards shall also be minimized by personnel receiving the proper training as required by Attachment 3 (Training Plan). Hazardous waste containers shall be inspected prior to movement to make sure they are properly closed and tightly sealed. Containers shall be transported on pallets and loaded and unloaded with a forklift. One or more spotters shall be used when hazardous waste is moved at any Facility hazardous waste management unit. Ramps facilitate movement of MHE in and out of storage units.

27.6 Runoff [Utah Admin. Code R315-3-2.5(b)(8)(ii)]

27.6.1 The OB/OD Conex storage building is mounted on rollers, positioning a stored container about 4 inches above exterior grade. An earthen berm surrounding the OB/OD Conex provides further protection from run-on and controls any runoff.

27.7 Protection of Water Supplies [Utah Admin. Code R315-3-2.5(b)(8)(iii)]

27.7.1 Contamination of water supplies shall be prevented at the Facility by minimizing the risk of discharge of hazardous waste. This shall be accomplished by proper inspection and maintenance of hazardous waste containers, including mitigation of leaking containers, prompt cleanup of any spills, and proper construction and maintenance of storage structures. Personnel shall be properly trained and equipped to handle hazardous wastes in both normal and emergency situations.

27.8 Mitigation of Equipment and Power Failures [Utah Admin. Code R315-3-2.5(b)(8)(iv)]

27.8.1 Any activities at the OB/OD Conex requiring power shall be supported by portable equipment. No power is required for the building to remain in a safe standby status.

27.9 Personal Protective Equipment [Utah Admin. Code R315-3-2.5(b)(8)(v)]

27.9.1 Personal protective equipment shall be supplied to personnel working at the OB/OD Conex as appropriate to accomplish assigned tasks in a safe manner.

27.10 Prevention of Reaction of Ignitable, Reactive, or Incompatible Waste [Utah Admin. Code R315-3-2.5(b)(9), Utah Admin. Code R315-8-2.8]

27.10.1 All wastes stored at the Facility that are listed as ignitable or reactiveshall be protected from sources of ignition or reaction (e.g. open flames, smoking, welding, radiant heat, or heat from friction, sparks, spontaneous ignition, etc.). Fusible links shall close igloo ventilation dampers in the event of high temperatures, thereby minimizing the danger from fire. Attachment 1 (Waste Analysis Plan) , lists ignitable or reactive wastes stored at the Facilty which include spent high efficiency particulate air filters, paint residues, and degreasing solvents. All hazardous wastes, not just the ignitable or reactive wastes, shall be protected from ignition sources..

27.10.2 To prevent accidental ignition or reaction caused by a lightning strike, the permitted storage igloos are protected with a lightning protection system. The air terminal (lightning rod) on the rear vent stack is placed at least one foot higher than the top of the vent. Grounding rods are also attached to the igloos.

27.10.3 Smoking and spark-producing devices shall not be allowed in units storing waste. Automatic lighters are installed in permitted smoking areas. No smoking signs shall be posted in all permitted storage areas, 90-day storage areas, and SASs. The Fire Departmentshall issue hot work permits for all operations that involve spark- or flame-producing operations.

27.10.4 A list of ignitable (D001) and reactive (D003) wastes stored in permitted storage areas is provided in Attachment 1 (Waste Analysis Plan), Table 1-1-1, RCRA Hazardous Waste Designation and Rationale. Precautions shall be taken with regard to storage to ensure that ignitable and reactive wastes are not exposed to ignition sources or other conditions that could initiate a reaction. Containers storing incompatible wastes at the Facility shall be segregated, and incompatible wastes shall not be mixed. No Smoking signs shall be posted at the enterance of Area 10 and all other permitted units. Workers shall be trained annually in proper handling and storage of hazardous waste as identified in Attachment 3 (Training Plan). Training for Facility employees shall provide instruction for proper handling and protection from sources that could ignite or cause a reaction with munitions. The training for employees shall also provide instruction on the proper handling of munitions and related waste. General safety requirements in Facility SOPs, reviewed with employees, shall provide instructions for properly handling munitions.

27.11 Inspection and Maintenance [R315-3-2.5(b)(5), R315-8-2.6(b), R315-8-5.3; 40 CFR § 264.73(b)(5)]

27.11.1 Frequency of facility inspections are defined in Attachment 2 (Inspection Plan) and are based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections.

Tooele Army Depot-South Area
Attachment 11
Reserved

Tooele Army Depot-South Area
Attachment 12
Container Management

Container Management

1.0 **General** [Utah Admin. Code R315-8-9.1 through 9.10;] Module III.B.1.a. contains a list of permitted waste codes.

1.1 The Tooele Army Depot-South Area (TEAD-S or Facility) stores and maintains Recovered Chemical Weapons Material, waste conventional munitions and components, and non-agent-related wastes derived from support activities. Attachment 12 (Container Management) describes the management practices and storage facilities at TEAD-S. Utah Admin. Code provides the regulatory basis for TEAD-S hazardous waste management procedures.

1.2 Reserved.

1.3 Attachment 1 (Waste Analysis Plan) provides a listing of all waste streams approved for storage at the Facility.

1.4 Reserved.

1.5 Wastes generated at the Facility are stored in 90-day storage areas or permitted storage Area 10 and the OB/OD Conex, and then are shipped to a licensed Treatment, Storage, and Disposal Facility (TSDF).

1.6 Containers used to store hazardous waste in the Facility Storage Areas shall include any portable device in which material is stored, transported, treated, disposed of, or otherwise handled, as defined in Utah Admin. Code R315-1-1. Examples of containers used in permitted storage facilities include: munition bodies, overpacks, and other Department of Transportation (DOT)-approved containers listed in Section 2.

1.7 The Permittee shall maintain a written inventory of hazardous waste in storage. The inventory shall be updated when a new waste is generated or existing waste is disposed of. It shall contain information about the quantity and location of hazardous wastes stored in permitted storage units.

2.0 **Containers with Free Liquids** [Utah Admin. Code R315-8-9.6]

2.1 Waste containers with free liquids managed at the Facility include: munitions declared waste by the Army; overpacked, Recovered Chemical Weapons Material; containers holding agent-related secondary waste, and other hazardous wastes.

2.2 Recovered conventional munitions and components may be stored in approved containers of various sizes in permitted storage areas. Containerized hazardous wastes shall be stored in DOT-approved containers in appropriate storage areas.

3.0 **Description of Containers** [Utah Admin. Code R315-8-9.2 and 9.3, Utah Admin. Code R315-3-2.6]

3.1 Recovered Chemical Weapons Material (RCWM)

3.2 Recovered Chemical Weapons Material (RCWM) shall be managed in accordance with the Utah Admin. Code, as well as Facility Standing Operating Procedures (SOPs). In

most instances, the munition body acts as the container for the chemical agent contained within.

3.3 Of the current munitions inventory at the Facility, only overpacked, RCWM and munitions declared waste by the Army's Designated Disposition Authority (DDA) are hazardous wastes. The inventory for permitted storage units is maintained in a database and the Facility Operating Record. RCWM shall be overpacked into an Army approved container.

4.0 Reserved

5.0 Non-Munitions-Related Waste

5.1 The Permittee shall use DOT-approved containers for storing non-munitions-related free liquids in onsite storage facilities. Other containers specified in the Hazardous Materials Table (49 CFR § 172.101) may also be used.

6.0 Container Management Practices [Utah Admin. Code R315-8-9, Utah Admin. Code R315-3-2.5(b)(5)]

6.1 The Permittee shall store hazardous waste to ensure safe operations and protection of the environment. Facility SOPs shall describe procedures for packaging RCWM-related waste, and the Facility Hazardous Waste Management Plan (HWMP) describes procedures for non-RCWM-related hazardous wastes, labeling containers, and performing waste inventories. Other management practices related to waste munitions storage and handling shall be provided in the current Department of Defense Explosives Safety Board (DDESB) storage standards. Containerized hazardous wastes shall be managed according to Utah Admin. Code R315-8-9.

6.2 The Facility property line is well over the required minimum 50-foot distance from the nearest permitted storage building or igloo, so ignitable or reactive waste may be stored in these facilities in compliance with Utah Admin. Code R315-8-9.7.

6.3 An Operating Record shall be maintained for the life of the facility that specifies the location of each waste container and correlates waste analysis results to waste containers, as required by Utah Admin. Code R315-8-5.3. The contents of leaking or damaged containers shall be repackaged in DOT-compliant containers. Headspace shall be left in all containers storing volatile liquid to avoid damage caused by expansion or contraction of wastes because of temperature changes.

7.0 Container Management

7.1 Container management activities for RCWM in permitted storage igloos shall include air monitoring for leak detection, visual inspections, labeling and inventorying containers in use, and overpacking leaking containers.

7.2 A hazardous waste label shall be placed on each container or pallet with the following information:

7.4.1 Waste stream numbers
7.4.2 Nomenclature,

7.4.3 Date of accumulation, and
7.4.4 Facility Information.

7.3 Area 10 igloos used to store RCWM shall be inspected in accordance with Attachment 2 (Inspection Plan).

7.4 Non-Munitions-Related Waste

7.4.1 Sources of ignition or reaction, such as open flames, welding torches, hot surfaces, frictional heat, sparks, spontaneous ignition sources, and radiant heat shall be excluded from hazardous waste storage areas.

7.4.2 Primary container management activities shall include container inspections, labeling, inventory, and compatibility. Containers shall be labeled in accordance with the Facility HWMP. Labels shall include:

7.7.2.1 Nomenclature;
7.7.2.2 Date of accumulation;
7.7.2.3 DOT shipment label;
7.7.2.4 Facility Information; and
7.7.2.5 Waste stream numbers.

7.4.3 Container inspection schedules and log sheets for documenting the inspections are contained in Attachment 2 (Inspection Plan). Containers and spill equipment shall be inspected weekly as described in Attachment 2 (Inspection Plan), and the results shall be noted on inspection forms. If significant deterioration of a container is observed or a ruptured container is identified, the wastes stored in the container shall either be overpacked or transferred to a new container.

8.0 <u>Secondary Containment System Design and Operation</u> [Utah Admin. Code R315-8-9.6]

8.1 In lieu of a conventional secondary containment system, a combination of container storage area design features, individual container storage apparatuses, igloo and individual munition monitoring procedures, and procedures to prevent hazards as described in paragraphs 8.2 through 8.3 are used to contain any potential releases of hazardous waste.

8.2 Igloo Headwall Monitoring

8.2.1 Headwall monitoring of the air inside igloos shall be conducted to ensure that any released chemical agent liquids or vapors are promptly detected to prevent the release of chemical agent to the environment. This program shall consist of sampling the air inside of igloos through sample ports located in the headwall (the front wall) of each igloo.

8.3 Secondary Containment

8.3.1 Drip pans shall provide secondary containment for containerized hazardous wastes containing free liquids. These drip pans shall conform to the secondary containment volume requirements found in Utah Admin. Code R315-8-9.6. The following is a description of storage practices that shall be used in the storage of hazardous waste.

8.3.1.1 Containers shall be stored on pallets unless the design of the container incorporates skids to elevate it above the storage base or the containers upon which it may be stacked. Each pallet shall have no more than four 55-gallon drums, or the equivalent volume of four, 55-gallon drums. The containers in storage shall be placed so they can be easily inspected on all sides to ensure the containers are sound and there are no leaks.

8.3.1.2 55-gallon drums shall be stacked no more than two high.

8.3.1.3 The maximum number of rows per igloo side shall be 12 (i.e., 24 rows per igloo). The maximum number of pallets per row shall be four (2 stacks, each 2 pallets high), and the maximum number of 55-gallon containers per row shall be 16 or the equivalent volume of 16, 55-gallon drums if containers with different volumes are used.

8.3.1.4 Containers of hazardous wastes with free liquids shall be placed in secondary containment drip pans if the container is the primary container for the waste. This shall include, at a minimum, all 55-gallon drums without removable heads. All other containers storing liquid hazardous waste shall be provided with secondary containment, either by drip pans or storage unit base design.

8.3.1.5 No more than 16, 55-gallon drums shall be stored in each drip pan (i.e. one drip pan per row).

9.0 Requirements for the Base or Liner to Contain Liquids

9.1 Liquids shall be contained by use of drip pans or storage unit base design. A professional engineer shall certify that the containment system design and completed construction meets secondary containment requirements of Utah Admin. Code R315-8-9.6.

10.0 Containers without Free Liquids

10.1 The Facility shall use DOT approved containers, or other various RCRA-compliant containers (boxes and other bulk containers). These containers shall meet the criteria specified in Utah Admin. Code R315-8-9 and the definition of "container" in Utah Admin. Code R315-1-1(b). Other containers that meet these criteria may also be used in permitted storage. Wastes without free liquids may also be stored in any permitted Hazardous Waste Management Unit (HWMU) at the Facility in compliance with Attachment 12 (Container Management).

10.2. The Facility shall store containers holding only wastes without free liquids in accordance with Utah Admin. Code R315-8-9.6(b), provided that there is no potential for waste container contact with precipitation.

11.0 Reserved

12.0 Description of Containers [Utah Admin. Code R315-8-9.2 and 9.3]

12.1 The Facility shall use DOT approved containers and containers approved by the Army for munitions and component related wastes that shall consist of:

12.1.1 Ammunition Container (i.e. M2A1 and M548) made of compatible materials for the waste being stored;
12.1.2 Prop charge can; and
12.1.3 Single and Multiple Round Container (SRC & MRC).

12.2 Containers shall be approved in accordance with 49 CFR § 173.24, 173.24a, 178, and 179. Containers shall be selected for each type of waste in accordance with the Hazardous Materials Table in 49 CFR § 172.101.

13.0 Container Management Practices

13.1 Containers shall be kept closed while in storage, except to add or remove waste, or to perform measurements or inspections. All container lids shall be sealed with either threaded fasteners (open-topped drums), or nails (wooden crates). Damaged or corroded containers shall be overpacked in 85-gallon drums made of either polyethylene or steel. Containers in storage shall be inspected on a weekly basis and in compliance with Tables 2-1 through 2-6, and Figures 2-1 through 2-4 of Attachment 2 (Inspection Plan). The storage arrangements used in all permitted waste storage facilities shall provide for maximum storage capacity and allow for ease in material handling.

13.2 All permitted storage units at the Facility shall be designed and operated to prevent containerized waste from coming into contact with precipitation and accumulated liquid.

Tooele Army Depot-South Area
Attachment 13
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Tooele Army Depot-South Area
Attachment 14
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Tooele Army Depot-South Area
Attachment 15
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