Orbital ATK

Div of Waste Management
and Radiation Control

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July 26, 2016
8200-CY16-075

DSHW-2016-011678

Mr. Scott T. Anderson, Executive Secretary
State of Utah Department of Environmental Quality
Division of Waste Management and Radiation Control
195 N. 1950 W.
P.O. Box 144880
Salt Lake City, Utah 84114-4880

Re: ATK Launch Systems-Promontory EPA ID number UTD009081357
Class 2 Permit Modification Request

Dear Mr. Anderson:

As required by ATK Launch Systems, Inc. (ATK) Hazardous Waste Storage and Treatment Permit, condition IV.M.3, ATK is requesting a class 2 permit modification to implement permit conditions and associated language as a result of the completion of the Human Health Risk Assessment (HHRA) for the Open Burning and Open Detonation Treatment Units at the Promontory Facility. Enclosed are the modified sections of the permit in a *red-line/strike-out* format.

Please contact me if you have any questions concerning this report. My telephone number is (435)863-2018 or you can contact Blair Palmer at (435)863-2430.

Sincerely

George E. Gooch, Manager
Environmental Compliance

cc: Jeff Vandel

MODULE II - GENERAL FACILITY CONDITIONS

II.A. APPLICABILITY

II.A.1. The requirements of this permit module pertain to all Hazardous Waste Management Units (HWMUs) identified within Modules I, II, III, IV and V.

II.B. DESIGN AND OPERATION OF FACILITY

II.B.1. The Permittee shall design, construct, maintain and operate all of the HWMUs and surrounding areas to minimize the possibility of a fire, explosion, or any sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, groundwater or surface water which could threaten human health or the environment.

II.B.2. Any construction changes associated with a permitted HWMU at the facility shall be documented by as-built drawings and certified by a registered professional engineer in accordance with Condition I.R.1. and UAC R315-3-3.1(l)(2)(i).

II.B.3. After review of the as-built drawings and field verification of the facility's HWMUs, the Director will notify the Permittee in writing of any change which he concludes does not satisfy the operating requirements specified in this permit.

II.C. REQUIRED NOTICE

II.C.1. As required by UAC R315-8-2.3(a)(1), the Permittee shall notify the Director in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source in the same calendar year is not required.

II.C.2. When the Permittee arranges 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 he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The Permittee shall keep a copy of this written notice as part of the operating record as required by UAC R315-8-2.3(b).

II.D. WASTE ANALYSIS PLAN

II.D.1. The Permittee shall follow the procedures of the Waste Analysis Plan included as Attachment 1 of this Permit. In addition, the Permittee shall comply with any other conditions involving waste analysis in Modules I, II, III, IV and V.

II.D.2. The Permittee shall use the test methods described in the Waste Analysis Plan (Attachment 1) or an equivalent procedure that satisfies Condition I.O.3. Changes in a test method described in the Waste Analysis Plan, as a result of an improvement or refinement of that method, may be adopted by the Permittee and incorporated into this Permit, in accordance with UAC R315-4-1.5 and Condition I.D.

II.D.3. The Permittee shall characterize, using analytical techniques if necessary, all waste streams generated on or off-site in accordance with UAC R315-8-2.4 and Attachment 1.

The waste characterization profiles shall be kept in the operating record.

II.D.4. An annual evaluation of each waste stream shall be performed, as outlined in the waste analysis plan, to verify that the waste characterization is still accurate. These evaluations shall be kept in the operating record until the next annual evaluations are completed. Characterization of waste streams shall also be done each time the process generating the waste changes.

II.D.5. Any waste analysis used to evaluate off-site waste for acceptance by the Permittee shall be accomplished using a laboratory that has been certified by the Utah State Division of Laboratories.

II.D.6. At a minimum, the Permittee shall:

II.D.6.a. Maintain properly functioning sampling and analytical equipment;

II.D.6.b. Use approved sampling and analytical methods; and

II.D.6.c. Submit an updated list of parameters, analytical methods, and sample preparation methods on an annual basis. The updated list shall be submitted to the Director on or before January 15th of each calendar year.

II.D.7. Whenever the Director determines that the Permittee needs to update the analytical methodologies or the version(s) of SW-846 that are being used by the Permittee's analytical laboratory, the Director will submit written notification to the Permittee. The Permittee shall notify the Utah Department of Health, Bureau of Laboratory Improvement of the requested update within 30 days of receipt of the Director's determination. The Permittee shall have 180 days from the receipt of the Director's written notification to complete the requested update. If it is not possible to complete the update within the prescribed time, the Permittee shall submit a written request for extension to the Director for approval.

II.D.8. If the Permittee uses a contract laboratory to perform analyses, the laboratory must be certified by the State of Utah to perform the contracted analyses. For parameters for which certification is unavailable, the Permittee shall ensure that quality control/quality assurance data provided by the laboratory is sufficient to assess the validity of the data. The Permittee shall inform the laboratory in writing that it must operate under the Waste Analysis Plan conditions set forth in this Permit.

II.E SECURITY

II.E.1. The Permittee shall comply with the security conditions and procedures contained in Attachment 7 of this Permit.

II.F. GENERAL INSPECTION REQUIREMENTS

II.F.1. The Permittee shall conduct inspections in accordance with UAC R315-8-2.6 and shall follow the inspection schedule found in Attachment 2.

II.F.2. The Permittee shall remedy any deterioration or malfunction as required by UAC R315-8-2.6(c). If the remedy requires more than 72 hours to implement from the time that the

problem is detected, the Permittee shall submit to the Director, before the expiration of the 72 hour period, a proposed time schedule for correcting the problem.

II.F.3. Any problem which could endanger human health or the environment shall be corrected as soon as possible after the problem is discovered. The Permittee shall make every effort to eliminate the threat to human health or the environment within 24 hours.

II.F.4. 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 which are part of corrective activities.

II.F.5. Records of inspections shall be kept as required by UAC R315-8-2.6(d).

II.G. RISK THRESHOLDS

II.G.1. The thermal treatment operations at the M-136 and M-225 Thermal Treatment Areas shall be conducted to minimize the risk to human health and the environment. The risk thresholds identified in Condition II.G. and the operating conditions identified in Module IV for the treatment areas shall be based on the information provided or referenced in Attachments to this Permit and the following site specific documents available for review in the Department of Environmental Quality, Division of Solid and Hazardous Waste files:

II.G.1.a. Sampling Results for Emissions Characterization of Open Burning Waste Propellant Materials, October 2009;

II.G.1.b. The Waste Characterization and Air Dispersion Modeling Protocol for use in the Human Health and Ecological Risk Assessments – ATK Launch Systems – Promontory, November 2009, January 2010;

II.G.1.c. The response to the Division of Solid and Hazardous Waste comments on the Waste Characterization and Air Dispersion Modeling Protocol for use in the Human Health and Ecological Risk Assessments, July 2010;

II.G.1.d. The Waste Characterization and Air Dispersion Modeling Report, to be completed in accordance with Condition IV.M.1.

II.G.1.e. The Human Health Risk Assessment Protocol for OB/OD Operations at the ATK Promontory Facility, February 2010;

II.G.1.f. The response to the Division of Solid and Hazardous Waste comments on the Human Health Risk Assessment Protocol for OB/OD Operations, August 2010; and

II.G.1.g. The Human Health Risk Assessment Report, to be completed in accordance with Condition IV.M.2.

II.G.2. Based on the findings of the Human Health Risk Assessment which shall be completed in accordance with Condition IV.M.2., the Permittee shall modify this section of the permit, in

accordance with Condition IV.M.3., to establish annual risk thresholds that minimize the risk to human health and the environment and ensure compliance with Permit Condition IV.C.5.

II.G.3. The Permittee shall submit to the Director by March 1st of each calendar year, an annual report on the operation of the Promontory Thermal Treatment areas. This report shall at a minimum include the following:

II.G.3.a. An accounting of the quantities and types of reactive hazardous waste treated at the M-136 and M-225 thermal treatment areas, including all donor material and ignition compounds;

~~II.G.3.b. The estimated quantity of TCDD TEQs, or other compounds as identified in accordance with Condition II.G.2., released annually. The quantity shall be calculated based on emission rates to be determined through approval of the air dispersion model as identified in Condition IV.M.1.~~

II.G.3.~~e~~b. An evaluation of the emission factors, identified in Condition II.G.1.a., used in the human health risk assessment to determine whether these factors are representative of the wastes treated and identified as directed by II.G.3.a., or if the emission factors need to be updated; and

II.G.3.~~d~~c. A review of the of the human health risk assessment, identified in Condition II.G.1.g., to evaluate changes to dose-response factors for the three classes of detected COPCs: chromium (total and hexavalent), 2,3,7,8-TCDD TE, and detected potentially carcinogenic PAHs (benzo(a)anthracene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene) ~~whether the slope factors and reference doses for carcinogenic and non-carcinogenic health effects related to the chlorinated dioxin, chlorinated furan and semi-volatile compounds have changed~~, and a review of the potential human health risk scenarios that were evaluated in the risk assessment to assure that these scenarios have not changed.

II.G.4. If the Director determines after reviewing this annual report that any component of the risk assessment needs to be updated, he will inform the Permittee in writing which components of the human health risk assessment to update.

II.G.5. If the Permittee is required to update the human health risk assessment for the M-136 or M-225 Thermal Treatment areas, the Permit shall be modified in accordance with Condition I.D. of this Permit.

II.H. PERSONNEL TRAINING

II.H.1. The Permittee shall conduct personnel training as required by UAC R315-8-2.7. This training program shall follow the outline found in Attachment 3. New personnel working with or around hazardous waste shall complete the required personnel training within six (6) months of their hire date, assignment to the facility or assignment to a new position at the facility.

II.H.2. Facility personnel shall take part in an annual review of their initial training for contingency and hazardous waste management procedures relevant to the positions in which they are employed.

II.H.3. The Permittee shall maintain training documents and records as required by UAC R315-8-2.7(d) and R315-8-2.7(e) [40 CFR 264.16(d) and 264.16(e)], in accordance with the

Training Plan in Attachment 3. These records shall indicate the type and amount of training received.

II.H.4. The Permittee shall maintain a copy of the Training Plan at the Facility until it is fully closed and closure is certified.

II.H.5. Employees working at the M-136 and M-225 Thermal Treatment Areas shall receive task specific on-the-job-training in addition to the training outlined in Attachment 3. This training shall be documented and maintained in the operating record.

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

II.I.1. The Permittee shall comply with the requirements of UAC R315-8-2.8.

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

II.J. LOCATION STANDARDS

II.J.1. The Permittee shall comply with the location standards specified by UAC R315-8-2.9.

II.K. PREPAREDNESS AND PREVENTION

II.K.1. The Permittee shall follow the Preparedness and Prevention Plan, Attachment 8.

II.K.2. At a minimum, the Permittee shall equip and maintain in good operating condition at the facility the equipment set forth in Attachment 8, as required by UAC R315-8-3.3.

II.K.3. The Permittee shall test and maintain the equipment specified in Condition II.K.2 as necessary to assure its proper operation in time of emergency.

II.K.4. The Permittee shall maintain records of the preventative maintenance and repair activities specified in Condition II.K.3. and shall keep schedules, reflecting minimum and planned frequency for the performance of preventative maintenance activities in the Operating Record at the facility.

II.K.5. The Permittee shall maintain access to the communications or alarm system as required by UAC R315-8-3.5.

II.K.6. At a minimum, the Permittee shall maintain 30 inches of aisle space between containers or pallets of containers at storage areas M-186 and E-501.

II.K.7. The Permittee shall attempt to make arrangements (Coordination Agreements) with State and local authorities as required by UAC R315-8-3.7. Copies of the Coordination Agreements shall be kept in the Operating Record. The attempts to make such agreements, any refusals and all final agreements shall be documented in the Operating Record.

II.L. CONTINGENCY PLAN

II.L.1. The Permittee shall immediately carry out the provisions of Attachment 4, and follow the emergency procedures described by UAC 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 Condition I.T. in reporting releases to the Director.

II.L.2. The Permittee shall provide copies of the Contingency Plan to emergency agencies who may be called in an emergency, shall maintain a copy of the Plan at the facility, and shall provide a copy upon request in accordance with UAC R315-8-4.4.

II.L.3. The Permittee shall review the Contingency Plan, in accordance with UAC R315-8-4.5 and shall modify it in accordance with Condition I.D., if necessary.

II.L.4. A trained emergency coordinator shall be available at all times in case of an emergency, in accordance with UAC R315-8-4.6 and identified in Attachment 4.

II.M. MANIFEST SYSTEM

II.M.1. The Permittee shall comply with the manifest requirements of UAC R315-5-2 and UAC R315-8-5. The manifest tracking number shall be recorded in the Operating Record with each waste load that arrives or leaves the Permittee's facility.

II.N. RECORDKEEPING AND REPORTING

II.N.1. The permittee shall maintain an accurate written Operating Record at the facility in accordance with UAC R315-8-5.3 (40 CFR 264.73 incorporated by reference) and R315-50-2 (Appendix I to Part 264 incorporated by reference).

II.N.2. The Permittee shall, by March 1 of each year, submit to the Director a certification pursuant to UAC R315-8-5.3 [40 CFR 264.73(b)(9) incorporated by reference], signed in accordance with UAC R315-3-2.2, that the Permittee has a 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.N.3. The Permittee shall comply with the biennial report requirements of UAC R315-8-5.6, by March 1 of each even-numbered reporting year. The report shall include wastes generated, treated or stored at the Permittee's facility during the previous odd-numbered year.

II.N.4. The Permittee shall submit additional reports to the Director in accordance with UAC R315-8-5.8.

II.N.5. All reports, notifications, applications, or other materials required to be submitted to the

Director shall be submitted in accordance with Condition I.DD.

II.O. CLOSURE/POST-CLOSURE

II.O.1. The Permittee shall close the facility as required by UAC R315-8-7, UAC R315-101 and Attachment 5.

II.O.2. For all HWMUs, minor deviations from the approved closure plan procedures, 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 60 days after completion of closure of each HWMU, the Permittee shall submit the certification statements and narrative reports to the Director.

II.O.3. The Permittee shall amend the closure/post-closure plan in accordance with UAC R315-8-7 and Condition I.D. whenever necessary, or when required to do so by the Director.

II.O.4. The Permittee shall notify the Director in writing of the partial closure of any portion of the facility in accordance with UAC R315-8-7. The Permittee shall notify the Director at least 180 days prior to the commencement of final facility closure. The closure plan contained in Attachment 5 will be reviewed before commencing partial or final facility closure. If the closure plan requires modification, the plan shall be modified and submitted to the Director for approval in accordance with Condition I.D.

II.O.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.

II.O.6. The Permittee shall decontaminate or dispose of all facility equipment, structures, soil and rinsate as required by UAC R315-8-7, R315-8-9 and Attachment 5. Facility equipment, structures and soil which have not been decontaminated shall be disposed of only at a permitted hazardous waste treatment, storage or disposal facility.

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

II.O.8. In the event that any of the hazardous waste management units covered by this permit cannot be clean closed by decontaminating or removing contaminated structures or soil, or releases have occurred which have impacted soil or groundwater, the Permittee shall modify the Closure/Post-Closure Plan for that hazardous waste management unit in accordance with Condition I.D. Within 30 days of the date that the Director approves the modification, the Permittee shall close the unit in accordance with the applicable provision of UAC R315-8-7 and R315-101.

II.O.9. If a HWMU cannot be clean closed, the Permittee shall submit a survey plat and property description for the HWMU with the submission of the certification of closure for the HWMU, in accordance with UAC R315-8-7 and R315-101.

II.P. COST ESTIMATES FOR HWMU CLOSURE

II.P.1. The Permittee's closure cost estimate for each HWMU shall be prepared and maintained at the facility in accordance with UAC R315-8-8 (40 CFR 264.142 incorporated by reference) and Attachment 5.

II.P.2. By July 30 of each calendar year, the Permittee shall adjust the closure cost estimate for inflation or submit the latest adjusted closure cost estimate for review and approval by the Director. After approval, the Permittee shall maintain the latest adjusted closure cost estimate in the operating record. The closure cost estimates shall identify the costs, in current dollars, of the steps necessary to perform final closure for each HWMU in accordance with UAC R315-8-9.9 and UAC R315-8-8 (40 CFR 264.142 incorporated by reference).

II.P.3. On the five year anniversary date of the submittal of the closure cost estimates required by Condition II.P.2. above, the Permittee shall conduct a detailed evaluation of the closure cost estimates for each HWMU and determine whether the annual adjustments for inflation have been adequate to update the closure cost estimates. The Permittee shall submit a report on this assessment and if necessary, a modification of the Permit in accordance with Condition I.D. to the Director 90 days after the report is submitted.

II.P.4. The Permittee shall revise the closure cost estimate within 30 days after the Director has approved the request to modify the affected closure plan(s).

II.P.5. For each new HWMU placed into operation, an updated closure cost estimate to the facility must be prepared which includes the new unit, 60 days prior to waste being placed on or into the new unit.

II.Q. FINANCIAL ASSURANCE FOR FACILITY CLOSURE

II.Q.1 The Permittee shall demonstrate continuous compliance with UAC R315-8-8 by providing documentation of financial assurance, as required by UAC R315-8-8. Changes in financial assurance mechanisms shall be approved by the Director at least 60 days prior to such a change. On ten day notice from the Director, the Permittee shall direct any entity that is responsible for payment of closure costs, to provide copies of documents demonstrating the status of the financial assurance mechanism.

II.Q.2. The Permittee shall revise the financial assurance for facility closure whenever there is a change in the facility's closure plan that would change the cost estimate as required by UAC R315-8-8.

II.R. LIABILITY REQUIREMENTS

II.R.1. The Permittee shall demonstrate continuous compliance with the liability requirements of UAC R315-8-8 (40 CFR 264.147(a) incorporated by reference). The Permittee shall

have and maintain hazardous waste liability coverage for sudden accidental occurrences in the amount of at least one $1 million U.S. dollars per occurrence with an annual aggregate of at least $2 million U.S. dollars, exclusive of legal defense costs. The Permittee shall submit an approved certificate of hazardous waste liability insurance worded as required by UAC R315-8-8.

II.R.2. The Permittee shall demonstrate continuous compliance with the requirements of UAC R315-8-8 (40 CFR 264.147(b) incorporated by reference) to have and maintain liability coverage for non-sudden accidental occurrences arising from operations of the two Hazardous Waste Management Units, designated as the M-136 and M-225 Thermal Treatment Areas.

II.R.3. Changes in liability coverage mechanisms shall be approved by the Director 60 days prior to such a change.

II.S. INCAPACITY OF OWNER OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

II.S.1. The Permittee shall comply with the notification and financial requirements of UAC R315-8-8 (40 CFR 264.148 incorporated by reference).

MODULE III – STORAGE IN CONTAINERS

III.A. APPLICABILITY

III.A.1. The requirements of this permit Module pertain to the operation of hazardous waste container storage areas at the facility. The Permittee shall comply with R315-8-9 and all conditions of this Module.

III.A.2. The designated hazardous waste storage areas are the bays of Buildings M-705S, E-501, M-629, M-186, the burn trays at M-136, Burn Station 14 at M-136, and Storage Pad S-633. Drawings of these storage areas are presented in Attachment 6.

III.B. WASTE IDENTIFICATION

III.B.1. The Permittee shall, subject to the terms of this Permit, store only the following hazardous wastes, as listed by EPA hazardous waste code, in containers at storage areas M-186, M-705S and E-501:

D001, D002, D003, D004, D005, D006, D007, D008, D009, D010 D011, D016, D018, D019, D021, D022, D023, D024, D026, D027,D028, D029, D035, D036, D038, D039, D040, D042, D043, F001, F002, F003, F004, F005, F006, F007, F008, F009, K044, P003, P012, P022, P028, P029, P030, P047, P048, P064, P067, P077, P087, P092, P093, P095, P098, P102, P105, P106, P112, P116, P119, U001, U002, U004,U006, U008, U009, U019, U025, U028, U029, U031, U037, U041, U044, U048, U053, U056, U057, U069, U070, U072, U077, U079, U080, U085, U088, U092, U093, U095, U098, U101, U102, U103,U105, U108, U112, U113, U117, U118, U120, U121, U122, U123, U131, U133, U134, U140, U147, U148, U149, U151, U154, U156, U159, U160, U161, U162, U165, U168, U169, U170, U171, U185, U186, U188, U190, U196, U201, U209, U210, U211, U218, U219, U220, U221, U223, U224, U225, U226, U228, U238, U239, U240, U243, U244, U246, U253, U328, U353, U359, U404.

III.B.2. The Permittee may store solid reactive hazardous waste, EPA hazardous waste code D003, in storage Building M-629 subject to the terms of this Permit.

III.B.3. ~~The Permittee may store solid reactive hazardous waste, EPA hazardous waste code D003, received from off-site in burn trays at M-136 for up to 14 days prior to thermal treatment. Waste stored in burn trays shall be containerized only in covered drums, boxes, plastic bags, woven bags, US Department of Transportation (DOT) approved shipping containers or containerized as described in Attachment 11. Containers shall be labeled and managed as specified in Attachment 9.~~

III.B.3~~4~~. The Permittee may store waste rocket motors, EPA hazardous waste code D003, received from off-site that contain solid propellant, one at a time on the ground at M-136, Burn Station 14 for up to 14 days prior to thermal treatment. The waste rocket motors shall be labeled and managed as specified in Attachment 9.

III.B.4~~5~~. The Permittee may store solid reactive hazardous waste, EPA hazardous waste code D003, on Storage Pad S-633 subject to the terms of this Permit.

III.B.56. The Permittee is prohibited from storing hazardous waste that is not identified in Section III.B. of this Module. Any addition of hazardous waste codes to Condition III.B.1. 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, bulging, apparent structural defects) or it has begun to leak, the Permittee shall transfer the hazardous waste, or the container itself, to a UN approved container in accordance with Section 8-1-10 of Attachment 8. The transfer shall be completed as soon as possible but not later than 24 hours from the time the problem was first discovered.

III.D. COMPATIBILITY OF WASTE WITH CONTAINERS

III.D.1. The Permittee shall assure that the waste is compatible with the containers as required by R315-8-9.3. The Permittee shall follow the compatibility plan as indicated in Section 9-2.1 and Table 9-2 of Attachment 9.

III.E. MANAGEMENT OF CONTAINERS

III.E.1. The Permittee shall manage containers in accordance with this module of the Permit, UAC R315-8-9.4 and the procedures identified in Attachment 9. A container holding hazardous waste shall always be closed during storage except when the Permittee is adding or removing waste from the container. The Permittee shall not open, handle, or store containers in a manner which may cause the containers to leak.

III.E.2. The Permittee shall store liquid hazardous wastes in containers only at storage areas M-186, E-501 and M-705S. Drawings of the container storage areas are shown in Attachment 6. At capacity, the Permittee may store the following volumes of wastes:

III.E.2.a. E-501 - 8,800 gallons, which is 160 55-gallon containers or the equivalent;

III.E.2.b. M-186 - 22,000 gallons, which is 400 55-gallon containers or the equivalent; and

III.E.2.c. M-705S - 1,760 gallons, which is 32 55-gallon containers or the equivalent.

III.E.3. The Permittee shall store solid reactive hazardous waste in containers at storage areas M-629, M-136 and S-633. Drawings of the storage areas are shown in Attachment 6. At capacity, the Permittee may store the following amounts of wastes:

III.E.3.a. M-629 - 110,000 lbs 1.3 or 55,000 lbs 1.1 solid reactive hazardous waste;

III.E.3.b. M-136 – 12506,5000 lbs of 1.3 or 20,000 lbs of 1.1 solid reactive hazardous waste, as described in Condition III.B.3. or III.B.4., in burn trays or in a rocket case placed on the ground; and

III.E.3.c S-633 – 75,000 lbs of 1.3 or 20,000 lbs of 1.1 solid reactive hazardous waste.

III.E.4. The Permittee shall maintain an aisle space of 30 inches minimum between containers or pallets of containers at storage areas M-186 and E-501.

III.E.5. The Permittee shall store hazardous wastes at M-705S, M-629, S-633 and M-136 so that the container or waste rocket motor may be readily inspected and hazardous waste labels are visible.

III.E.6. The Permittee may stack 55-gallon drums at a maximum of two high at storage areas M-186 and E-501.

III.E.7. Hazardous waste containers shall not be stacked at storage areas M-705S, M-629, S-633 and M-136 except as described in Attachment 9-2.3.

III.E.8. The Permittee shall unload any 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.9. The Permittee shall provide storage for and maintain on-site, 85 gallon over-pack drums at areas where liquid hazardous waste is stored.

III.F. CONTAINMENT SYSTEMS

III.F.1. The Permittee shall maintain the containment systems in accordance with the attached plans and specifications contained in Attachment 9 and as specified in UAC R315-8-9.6.

III.F.2. Container management areas shall be inspected for the presence of free liquids in accordance with Attachment 2. If free liquids are discovered in the sumps or other containment areas, the Permittee shall identify the location in the inspection log. Any liquids discovered shall be removed immediately, but in no case later than twenty-four hours after the liquid is discovered and managed according to the spill contingency plan specified in Section 9-4.3 of Attachment 9.

III.F.3. For purposes of inspections, all containers stored in the liquid hazardous waste storage area shall be considered full to their respective capacities with liquid hazardous waste. Gondolas/roll-offs that are used only for the storage of solid hazardous waste need not be considered in the calculations for containment. The area for storing solid waste shall be identified.

III.F.4. The burn trays at M-136 are only permitted for the storage of solid reactive wastes in containers received from off-site for no more than 14 days. However since some of the containers contain small amounts of desensitizing fluid (e.g. diesel, shingle oil, etc.), the containment requirements, as specified in Attachment 9, apply to the storage of wastes in the burn trays. Inspection of the burn trays shall be conducted in accordance with Attachment 2.

III.G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

III.G.1. The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility boundary.

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 8, UAC R315-8-2.8 and UAC R315-8-9.7.

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, in accordance with UAC R315-8-2.8 and UAC R315-8-9.8(a).

III.H.2. The Permittee shall not place hazardous waste or materials in an unwashed container that previously held an incompatible waste or material in accordance with UAC R315-8-2.8 and UAC R315-8-9.8(b).

III.H.3. A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby shall be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

III.I. INSPECTION SCHEDULES AND PROCEDURES

III.I.1. The Permittee shall inspect the hazardous waste storage and treatment facilities identified in Condition III.B. of this Permit as specified in the Inspection Schedules contained in Attachment 2. The purpose of this inspection shall be to detect leaking containers, standing liquids, deterioration of containers, and to detect deterioration of, or liquids in, the secondary containment system caused by corrosion and other factors as specified in R315-8-9.5.

III.I.2. If problems are observed during the inspections, the Permittee shall correct the problem in accordance with Module II, Section F.

III.J. CLOSURE/POST-CLOSURE

III.J.1. The Permittee shall close the storage areas in accordance with UAC R315-8-7, UAC R315-8-9.9, Condition II.O. and Attachment 5 of this Permit.

III.J.2. Closure plans for each individual hazardous waste management area shall be submitted to the Director for approval no less than 180 days prior to the commencement of closure activities. No closure activities shall take place that have not received prior approval from the Director.

MODULE IV – THERMAL TREATMENT OF ENERGETIC WASTES

IV.A. APPLICABILITY

IV.A.1. The requirements of this permit module apply to the thermal treatment of energetic or reactive hazardous waste at the ATK Launch Systems – Promontory facility, Box Elder County, Utah. The Permittee shall comply with UAC R315-8 and all conditions of this module and Permit.

IV.A.2. The permit conditions of this module allow thermal treatment at the two Hazardous Waste Management Units, designated as the M-136 and M-225 Thermal Treatment Areas, as designed and described in the drawings and specifications in Attachments 6 and 11. The M-136 Thermal Treatment Area consists of 14 burn stations and 2 open detonation areas. The M-225 Thermal Treatment Area consists of 4 burn stations and 1 open detonation area.

IV.A.3. Thermal treatment at both of the Promontory Thermal Treatment Areas shall only be accomplished by properly trained ATK personnel in accordance with ATK's Standard Operating Procedures, the conditions of this Permit and its attachments.

IV.A.4. This Permit has been developed in accordance with the applicable requirements of UAC R315-1 through 101. All conditions in this Permit shall supercede conflicting statements, requirements, or procedures found in UAC R315-1 through 101 or attachments to this Permit.

IV.B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

IV.B.1. The Permittee may treat energetic or reactive hazardous waste at the two Promontory Thermal Treatment Areas by open burning and detonation. These energetic and reactive hazardous wastes are generated from the following sources:

IV.B.1.a. Class 1.1 and 1.3 propellants and explosives manufactured at the Promontory, Bacchus, and other ATK facilities as well as Autoliv ASP, DOD, NASA or other government and private facilities (e.g. cured and uncured propellants, excess propellants and propellant scraps);

IV.B.1.b. Production materials contaminated with class 1.1 and 1.3 propellants and explosives and reactive residues (e.g., rags, gloves, other personal protective equipment, plastics, rubber and paper that were contaminated with explosive materials during the manufacturing process);

IV.B.1.c. Large and small class 1.1 and 1.3 rocket motors and initiating devices;

IV.B.1.d. Class 1.3 Pyrotechnic, Illuminants, Metal Powders, or Autoliv ASP Products

IV.B.1.e. Production materials contaminated with class 1.3 Pyrotechnic, Illuminants, Metal Powders, or Autoliv ASP Products and other reactive residues (e.g., rags, gloves, other personal protective equipment, plastics, rubber and paper that were contaminated with explosive materials during the manufacturing process);

IV.B.1.f. Reactive laboratory wastes which may contain solvents;

IV.B.1.g. Wastewater treatment sludge generated from the processing of explosive ingredients and propellants defined in UAC R315-2 as a K044 listed hazardous waste;

IV.B.1.h. Reactive bag house dust generated from the processing of explosive ingredients and propellants; and

IV.B.1.i. Waste developmental propellants, explosives and associated contaminated production materials.

IV.B.2. Only reactive hazardous waste as defined by UAC R315-2 may be treated at the Promontory Thermal Treatment Areas. Reactive hazardous waste thermally treated at the Promontory Thermal Treatment Areas may contain the follow EPA waste codes: D001, D003, D005, D007, D008, D030, D038, F001, F002, F003, F004, F005 and K044.

IV.B.3. The Permittee is prohibited from thermally treating reactive hazardous waste classes and compositions not included in Conditions IV.B.1. and IV.B.2. including wholly inert items, improvised explosive devices (e.g. homemade bombs) and chemical wastes.

IV.B.4. The Permittee is prohibited from thermally treating, by open burning, energetic reactive hazardous wastes that will detonate under open burning conditions.

IV.B.5. The addition of hazardous waste codes to Condition IV.B.2. requires modification of the permit as specified in UAC R315-4-1.5 and Condition I.D.

IV.B.6. The Permittee shall comply with the waste compatibility requirements of Condition II.I.

IV.C. GENERAL OPERATING CONDITIONS

IV.C.1. The Permittee shall comply with the following treatment limits for the M-136 Thermal Treatment Area:

~~IV.C.1.a. The Permittee shall not treat more than a total of 106,500 pounds of reactive hazardous waste in a calendar day;~~

IV.C.1.~~b~~a. The Permittee shall not treat, by open burning (OB), more than a combined amount of 122~~06~~,~~50~~00 pounds of reactive hazardous waste in a calendar day under treatment scenario M-136-A~~at burn stations 1,2,3,4,5,6,7,8,9,10,11,12;~~

IV.C.1.~~e~~a.1 The Permittee shall not treat- by OB more than ~~50~~96,000 pounds total of reactive hazardous waste in a calendar day at any six -burn stations of burn stations 1 through 12, at 16,000 pounds in each station, under treatment scenario M-136-A~~13~~;

IV.C.1.~~d~~a.2 The Permittee shall not treat by OB more than 10~~6~~,~~50~~00 pounds of reactive hazardous waste in a calendar day at burn station143 under treatment scenario M-136-A;

IV.C.1.~~e~~a.3 The Permittee shall not treat by OB more than 16,000 pounds of reactive hazardous waste in a calendar day at burn station 14 under treatment scenario M-136-A ~~by open detonation per event~~;

IV.C.1.~~f~~b. The Permittee shall not treat, by open burning (OB), more than 125,000 pounds total of reactive hazardous waste in a calendar day at burn station 14 under treatment scenario M-136-B;

IV.C.1.c. The Permittee shall not treat, by open detonation (OD), more than 1,200 pounds total of reactive hazardous waste in a calendar day under treatment scenario M-136-C;

IV.C.1.c.1 The Permittee shall not treat by OD more than 600 pounds of reactive hazardous waste in a calendar day at each burn station 13 and 14;

IV.C.1.d The Permittee shall not operate more than one treatment scenario, M-136-A, M-136-B, or M-136-C in a calendar day:

IV.C.1.e The Permittee shall operate the M-136 Thermal Treatment Area in accordance with the quantity-distance requirements identified in Attachment 11 section 5; and

IV.C.1.~~g~~f. The Permittee shall not treat more than 10,000,000 pounds of reactive hazardous waste at the M-136 Thermal Treatment Area in a calendar year. This 10,000,000 pound limit shall be established by adding the Net Explosive Weight (NEW) and all donor and initiator materials. Donors shall include all pallets, cardboard, packaging material, absorbents and diesel fuel.

IV.C.2. The Permittee shall comply with the following treatment limits for the M-225 Thermal Treatment Area:

IV.C.2.a. The Permittee shall not treat, by open burning (OB), more than 4,500 pounds of reactive hazardous waste per calendar day under treatment secanario M-225-A;

IV.C.2.a.1 The Permittee shall not treat by OB more than 4,500 pounds total of reactive hazardous waste in a calendar day at any four burn stations of burn stations 1 through 4, at 1,125 pounds in each station, under treatment scenario M-225-A;

IV.C.2.b. The Permittee shall not treat, by open detonation (OD), more than 600 pounds of reactive hazardous waste in a calendar day under treatment scenario M-225-B ~~by open detonation per event~~;

IV.C.2.b.1 The Permittee shall not treat by OD more than 600 pounds of reactive hazardous waste in a calendar day at the open detonation area of M-225;

IV.C.2.b.2 The Permittee shall not operate more than one treatment scenario, M-225-A, or M-225-B in a calendar day:

IV.C.2.c. The Permittee shall operate the M-225 Thermal Treatment Area in accordance with the quantity-distance requirements identified in Attachment 11 section 5; and

IV.C.2.d. The Permittee shall not treat more than 55,000 pounds, by open burning, and 10,000 pounds, by open detonation, of reactive hazardous waste at the M-225 Thermal Treatment Area in a calendar year. This limit shall be established by adding the Net Explosive Weight (NEW) and all donor and initiator materials. Donors shall include all pallets, cardboard, packaging material, absorbents and diesel fuel.

IV.C.3. The Permittee shall maintain the integrity of the Promontory Thermal Treatment Areas to ensure that they meet the performance standards of UAC R315-8-16 and minimize the potential impacts to human health and the environment. The Permittee shall adhere to applicable provisions of Attachments 2 and 11 and the following conditions:

IV.C.3.a. The Permittee shall conduct all open burn operations within the secure areas designated as the M-136 or M-225 Thermal Treatment Areas with controlled access as identified in Attachment 11;

IV.C.3.b. The Permittee shall post warning signs around both of the Thermal Treatment Areas to keep unauthorized personnel out;

IV.C.3.c. The Permittee shall maintain the egress paths for both of the Thermal Treatment Areas identified in Attachment 4;

IV.C.3.d. The Permittee shall disable the firing system whenever operators are in the QD for this treatment unit. The firing system shall only be active or armed when operators are conducting a pre-burn continuity check, as specified in Attachment 11, Section 8.2.3, or when the firing system is being maintained and no waste is present in the treatment area, or after all operators have exited the treatment unit and retreated to the firing control room in preparation of initiating an ignition as specified in Condition IV.F.2.i;

IV.C.3.e. The Permittee shall assess and monitor meteorological conditions to ensure operators are not exposed to risks from lightning strikes or other adverse weather conditions that would preclude the safe operation of the M-136 or M-225 Thermal Treatment Areas. The Permittee shall record the temperature, wind speed, wind direction, sky conditions and clearing index prior to each burn in the facility operating record;

IV.C.3.f. The Permittee shall comply with all requirements for pre-placement of waste, placement of waste in treatment units, wiring and ignition and the post-burn inspection and clean up activities identified in Condition IV.D, E, F, G, H and I;

IV.C.3.g. The Permittee shall provide operators with access to a telephone that can be used to contact support personnel, including security, safety and fire fighting units, whenever the operators are inside the M-136 or M-225 Thermal Treatment Areas;

IV.C.3.h. The Permittee shall maintain the integrity of the two Promontory Thermal Treatment Areas and support equipment through regular inspections and in accordance with the inspection plan in Attachment 2. Inspection records shall be maintained at the facility;

IV.C.3.i. The Permittee shall train all operators of the Promontory Thermal Treatment Areas in accordance with Condition II.H. and Attachment 3 of this Permit;

IV.C.3.j. The Permittee shall not operate either of the Promontory Thermal Treatment Areas without containment measures (e.g. firebreaks) to assure the confinement and control of any fire resulting from the open burn and open detonation operations at the Promontory Thermal Treatment Areas; and

IV.C.3.k. The Permittee shall not treat propulsive items at the Promontory Thermal Treatment Areas, unless the item has been rendered non-propulsive or is contained in accordance with Attachment 11.

IV.C.4. The Permittee shall operate the Promontory Thermal Treatment Areas to prevent unacceptable risk of cancer and non-cancer effects to on-site workers and off-site residents and to minimize significant effects to the ecosystem surrounding the Promontory Thermal

Treatment Areas. The Permittee shall maintain compliance with the environmental performance standards listed in UAC R315-8-16 and comply with Permit Condition II.G.2.

IV.C.5. The Permittee shall adhere to the following conditions to prevent unacceptable risk of cancer and non-cancer effects due to exposure to emissions from the open burning operations:

IV.C.5.a. The excess carcinogenic risk to on-site workers shall not exceed $1.0x10^{-4}$ (one in ten thousand) or a Hazard Index of 1.0 for the potential workers positioned at the point of on-site maximum exposure, as calculated according to the methodology in the approved HHRA for Promontory. The maximum treated at the burning grounds shall not exceed 129,500 lbs. per burn. ~~The cumulative carcinogenic risk to on-site workers shall not exceed an occurrence rate of $1.0 X 10^{-4}$ (one in ten thousand) for the closest potential receptors which are Promontory facility workers~~. The risk shall be calculated in accordance with Section II.G.; and

IV.C.5.b. The excess carcinogenic risk to actual or potential off-site receptors shall not exceed $1.0x10^{-6}$ (one in a million). The cumulative non-carcinogenic hazard to actual or potential off-site receptors shall not exceed a hazard index of 1.0 for any 24-hour period following initiation of a burn or detonation, as calculated according to the methodology in the approved HHRA for Promontory. The maximum treated at the Promontory Burning Grounds shall not exceed 10,065,000 lbs. per year.~~The cumulative carcinogenic risk to actual or potential off-site receptors shall not exceed $1.0 X 10^{-6}$ (one in a million). The cumulative non-carcinogenic hazard to actual or potential off-site receptors shall not exceed a hazard index of 1.0 for any 24-hour period following initiation of a burn. The cumulative carcinogenic risk and non-carcinogenic hazard to actual or potential off-site receptors shall be calculated in accordance with Section II.G.~~

IV.C.6. Based on the air dispersion and deposition modeling and the human health risk assessment ~~to be~~ completed in accordance with Conditions IV.M.1. and IV.M.2. for the Promontory Thermal Treatment Areas, the Permittee shall adhere to the following conditions:

IV.C.6.a. ATK shall notify the Box Elder County Fire Marshall's Office and obtain a clearing index before each treatment operation involving reactive material;

IV.C.6.b The Permittee may conduct burns and open detonations only between the hours of 9:00 am Mountain Time (MT) and 6:00 pm MT.

IV.C.6.~~c~~b. The Permittee shall only conduct burns when the surface wind speed is ~~not~~ greater than 3 miles per hour (mph) and less than 15 ~~miles per hour~~mph; and

IV.C.6.~~d~~e. The Permittee may conduct burns and open detonations only when the Clearing Index (CI) is greater than 500 unless, approved by agreement with Utah Division of Air Quality, and Box Elder County~~between the hours of 10:00 am and 6:00 pm~~.

IV.D. WASTE TRACKING

IV.D.1. The Permittee shall track all reactive hazardous waste in accordance with Attachment 11 and maintain this information in the operating record for both of the Promontory Thermal Treatment Areas.

IV.E. PRE-BURN ACTIVITIES

IV.E.1. Prior to bringing any reactive hazardous waste into either of the Promontory Thermal Treatment Areas for thermal treatment, The Permittee shall conduct pre-burn activities in accordance with the requirements identified in Attachment 11, and the pre-burn inspection requirements in accordance with the inspection schedule included in Attachment 2. The Permittee shall also comply with the following conditions:

IV.E.1.a. If the treatment units have not been inspected the same day the unit is loaded, the treatment unit shall be inspected prior to placing reactive waste in the treatment unit;

IV.E.1.b. Any treatment unit that fails one or more of the inspection criteria shall be removed from service until the problem is corrected;

IV.E.1.c. No treatment is permitted unless either radio or telephone communication with emergency services is available;

IV.E.1.d. No treatment is permitted if the emergency equipment listed in Attachment 2, Table II-B, "Inspection Schedule for Thermal Treatment Area at M-136" or Table II-C, "Inspection Schedule for Thermal Treatment Areas at M-225" is not available for use at each respective location;

IV.E.1.e. All leaks or spills of diesel fuel shall be cleaned up before the Promontory thermal treatment areas can be operated; and

IV.E.1.f. The loss of the flashing light will require that the unit be shut down until the problem is corrected. If the Permittee must use the treatment unit when the flashing light is not working, the supervisor shall visually inspect the area within the QD of the treatment unit and assure that no unauthorized employees are present in the area. If any unauthorized employees are found within this area, they will be escorted from the area. Treatment operations can commence once the supervisor verifies in the operating record that the area is clear.

IV.F. PREPARING WASTE FOR THERMAL TREATMENT BURN

IV.F.1. Prior to placing any reactive hazardous waste in a treatment unit, the Permittee shall comply with all provisions Conditions IV.C, D and E of this Permit. The Permittee shall also comply with the following conditions:

IV.F.1.a. There shall be at least two operators present when a treatment unit is in the process of being loaded with reactive hazardous wastes as defined in Condition IV.B.1;

IV.F.1.b. The treatment unit shall be loaded in accordance with internal safety procedures and the ATK Hazardous Operation Standard 1-3 Handling & Disposal of Explosives & Other Hazardous Wastes, an internal and confidential document which is part of the operating record, and the provisions identified in Attachment 11.8.2.2;

IV.F.1.c. All cardboard, wood and diesel used as donor material to assure a complete burn shall be counted towards the daily treatment limits, and recorded in the operating record;

IV.F.1.d. All reusable propellant buckets used as accumulation containers for reactive waste shall be inspected after use. If there is any contamination in the containers they shall be cleaned or

decontaminated in accordance with the procedures identified in Attachment 11 before being reused;

IV.F.1.e. The Permittee shall document in the operating record the burn station for each container of reactive hazardous waste treated.

IV.F.2. Prior to beginning the final preparations for an open burn, the Permittee shall comply with the following conditions:

IV.F.2.a. Reactive waste shall not be prepared for ignition, as described in Attachment 11.8.2.3, until all non-essential personnel leave the treatment area;

IV.F.2.b. All wiring and ignition operations, described in Attachment 11.8.2.3, shall be conducted by at least two employees;

IV.F.2.c. The Permittee may reactivate the firing system treatment areas only after all operators have exited the QD for the treatment unit;

IV.F.2.d. As the operators leave the treatment area following operations described in Attachment 11, Section 8.2.3, they shall close the gate to the treatment area;

IV.F.2.e. After all operators have exited the treatment area and retreated to the firing control room, the operators may replace the firing system interlock in the firing system control console and activate the firing system;

;

IV.F.2.f. After activating the firing system, the operators shall confirm that the flashing red light was activated to alert all personnel that a treatment event is about to start and that they should vacate the QD area for the treatment area. If the flashing light is not operational, the Permittee shall comply with Condition IV.E.1.f. before initiating the thermal treatment;

IV.F.2.g. After the warning identified in Condition IV.F.2.f. has been completed, the Permittee shall conduct a pre-ignition continuity check of the firing system to assure that the igniters have been installed correctly into the hard-wired portion of the firing system. If any firing circuit fails this test, the Permittee shall perform the following tasks:

IV.F.2.g.i. Remove the interlock for the firing control system, deactivating the firing control system;

IV.F.2.g.ii. At least two operators shall reenter the treatment area, and correct the problem;

IV.F.2.g.iii. If the resistance problem cannot be immediately corrected, the operators may connect a separate igniter wire to an adjacent stanchion; and

IV.F.2.g.iv. After the problem with the firing circuit has been corrected the operators shall repeat the steps described in Conditions IV.F.2.g.

IV.F.2.h. The treatment units shall be fired in accordance with the provision of Attachment 11, Section 8.2.3 of this Permit;

IV.F.2.i. All thermal treatment events shall be observed with a video camera from the firing control room or immediately outside the firing control room;

IV.F.2.j. In the event that none of the treatment units ignite, the operators shall wait 30 minutes before removing the firing system interlock and reentering the treatment area to correct the problem. After correcting the problem, the operators shall repeat the steps described in Conditions IV.F.2.c, d, e, f and g, and proceed with activating the firing system;

IV.F.2.k. If at least one treatment unit ignites, then the operators shall wait at least 16- hours before reentering the treatment area , and correcting the problem. After the problem has been corrected, the operators shall repeat the steps described in Conditions IV.F.2.c, d, e, f and g, and proceed with activating the firing system;

IV.F.2.l. Prior to ignition, the area supervisor or designee, shall review the placement of the waste on the treatment units; and

IV.F.2.m. All treatment data shall be maintained in accordance with the requirements of UAC R315-8-5.3 and shall be entered into the operating record for the Promontory facility in accordance with attachment 11.6.

IV.G. POST-BURN ACTIIVTIES

IV.G.1. Following treatment, the Permittee shall conduct the post-burn inspection activities identified in Attachment 2, and clean up activities identified in Attachment 11of this Permit, and shall comply with Conditions IV.C.1, 2 and 3, and shall have completed and complied with all provisions of Conditions, IV.E and F.

IV.G.2. The post-burn inspection shall be conducted within 24 hours of completing a treatment event, and perform the following unless one of the exceptions identified in IV.G.2.j or k applies:

IV.G.2.a. Prior to entering the treatment area, the operators shall deactivate the firing control system and remove the interlock;

IV.G.2.b. Document any treatment unit with an open flame, hot spot or smoldering residue;

IV.G.2.c. Document any treatment unit with unburned residue;

IV. G.2.d. Document any treatment unit with unburned reactive hazardous waste and identify if possible in the operating record why the waste did not burn;

IV.G.2.e. Inspect for any unburned waste that was ejected from a treatment unit during the last treatment event. Such waste shall be picked up and placed in a treatment unit;

IV.G.2.f. Record on the inspection form the date that the treatment units were cleaned, or the reason why the units were not cleaned within 24 hours after completing the treatment event;

IV.G.2.g. Identify the treatment unit where unburned waste is being stored;

IV.G.2.h. Evaluate the condition of the safety equipment identified in Attachment 2, Table II-B and Table II-C;

IV.G.2.i. The Permittee may postpone post-burn activities if lightning strikes or adverse weather conditions prohibit the safe operation of the treatment areas. Lightning strikes closer than 30 miles restrict attended operations at the Promontory Facility. The Permittee shall document the reasons for the delay in the facility's operating record; and

IV.G.2.j. The Permittee may delay the post-burn inspection for burns involving bulk propellant and bulk explosives that occurred on a Thursday or Friday. The post-burn inspection shall be conducted on the following Monday, unless the meteorological conditions identified in Condition IV.G.2.i. prohibit re-entry into the treatment area. The Permittee shall document the reasons for the delay in the facility's operating record.

IV.G.3. Within 24 hours of completing an open burn that generates a characteristic or listed ash or residue, the Permittee shall remove all characteristic or listed residues from the treatment area and manage the waste in accordance with R315-5 of the UAC. If meteorological conditions exist, as identified in Condition IV.G.2.i., that prohibit re-entry into the treatment area within the 24 hour period, the Permittee shall document the following information in the operating record:

IV.G.3.a. The reason for the delay in doing the post-burn clean up;

IV.G.3.b. The date when the treatment unit was cleaned; and

IV.G.3.c. Except as delayed by the conditions described in Condition IV.G.2.i, the area supervisor, or designee, shall review the Promontory Thermal Treatment Areas log and post-burn inspection forms within 24 hours of completing a thermal treatment event. The review shall assure that all of the recorded information is correct and identify any items that may require corrective action including any treatment unit that failed to ignite, had an ignition problem or misfired, had an unplanned detonation, where the burn did not propagate as expected or any other unexpected event.

IV.G.4. Open burn operations at the Promontory Thermal Treatment Areas may result in the generation of untreated residue and unburned wastes. The Permittee shall manage these residues and wastes in accordance with the following provisions:

IV.G.4.a. Small amounts of untreated residue shall be considered newly generated waste and shall be logged and tracked as such in the explosive waste tracking system. This small amount is defined as less than 5% of the total volume placed treatment unit. The primary option for managing this waste is to burn it by 6:00 pm of the following calendar day. If the untreated residue cannot be treated by 6:00 pm of the following calendar day then it shall be managed in accordance with UAC R315-5;

IV.G.4.b. Unburned waste resulting from a misfire or an interrupted ignition shall be treated by 6:00 pm of the calendar day following the date of the first attempt to treat this waste. For the purposes of this Permit, an interrupted ignition occurs when anything greater than 5% of the waste placed on in a treatment unit or in a station fails to ignite. This unreacted waste shall not be considered a newly generated residue. If the Permittee is unable treat the unburned waste by 6:00 pm of the following calendar day, the Permitttee shall cover the waste and manage the treatment unit or station in accordance with UAC R315-5. If the cumulative storage time for the unburned waste both while in storage prior to treatment and while on the treatment unit or in the burn station is greater than 90 days, the Permittee shall request an emergency storage permit in accordance with UAC R315-3-6.2;

IV.G.4.c. For reactive hazardous wastes that have been in storage for greater than 90 days when they are placed on in a treatment unit or in a burn station and which do not completely burn, the Permittee shall treat all unburned or unreacted waste by 6:00 pm of the calendar day following the date of the initial attempt to treat the waste. If the Permittee is unable to treat the unburned or unreacted waste by 6:00 pm of the following calendar day, then the

Permittee shall request an emergency storage permit in accordance with UAC R315-3-6.2; and

IV.G.5. The Permittee shall manage all treatment residues generated from the treatment of listed and/or characteristic wastes during post-burn activities in accordance with this Permit and UAC R315-5.

IV.H. STORMWATER MANAGEMENT AND RUN-ON AND RUN-OFF CONTROLS

IV.H.1. The Permittee shall manage all stormwater collected from treatment units in accordance with this Permit, Attachment 11, Section 11 and UAC R315-5.

IV.H.2. The Permittee shall maintain run-on diversion structures in accordance with this Permit and UAC R315-8-16 which incorporates by reference 40 CFR 264.601. The Permittee shall inspect the condition of those structures annually to assure that they are in good repair. The annual inspection shall be documented in the operating record for Promontory Thermal Treatment Areas.

IV.H.3. Run-off from precipitation that falls within the operating area of the Promontory Thermal Treatment Areas shall be managed in accordance with UAC R315-8-16, which incorporates by reference 40 CFR 264.601, using berms, and ground slope.

IV.H.4. The Permitee will submit a proposal for managing run-off precipitation within 180 days from the issue date of this permit.

IV.I. TREATMENT RESIDUE AND ASH MANAGEMENT

IV.I.1. All treatment residue and ash generated from the Promontory Thermal Treatment operations shall be managed in accordance with Condition IV.G.5. and the procedures identified in Attachment 11.

IV.I.2. Sampling and analysis of treatment residues and ash generated during operations at the thermal treatment areas shall be performed in accordance with Attachment 1 and 11.

IV.J. INSPECTION SCHEDULES AND PROCEDURES

IV.J.1 The Permittee shall conduct inspections of the Promontory Thermal Treatment areas in accordance with Attachment 2 and 11.

IV.K. ENIVRONMENTAL MONITORING REQUIREMENTS

IV.K.1. Within 180 days of issuance of this Permit or completion of the Human Health Risk Assessment, whichever occurs later, the Permittee shall submit a Soil Monitoring Plan to the Director for approval. The Soil Monitoring Plan shall, at a minimum, address the following:

IV.K.1.a. The impact of thermal treatment operations on soils within the treatment zone as identified by the air dispersion and deposition model contained in the human health risk assessment identified in Condition II.G.1.;

IV.K.1.b. Risks to human health from exposure to media impacted by emissions from the Promontory Thermal Treatment Areas operations shall be assessed. Acceptable risks are specified in

Conditions IV.C.5.a. and IV.C.5.b. The receptors to be evaluated are listed in the Human Health Risk Assessment identified in Condition II.G.1. The risk assessment methodology shall be consistent with UAC R315-101; and

IV.K.1.c. The plan shall identify analytes, sampling protocols and data quality objectives for the soil monitoring program.

IV.K.2. If the Director does not approve the Soil Monitoring Plan, he shall provide written comments to the Permittee identifying the deficiencies in Soil Monitoring Plan. The Permittee shall address the comments and submit a revised Soil Monitoring Plan to the Director for approval within 60 days of receipt of written comments.

IV.K.3. Within 30 days of receipt of the Director's approval of the Soil Monitoring Plan, the Permittee shall submit a request to modify the Permit in accordance with Condition I.D. to incorporate the requirements of the Soil Monitoring Plan into this Permit.

IV.K.4. Within 180 days of the issuance of this Permit, or completion of the Human Health Risk Assessment, whichever occurs later, the Permittee shall submit a Groundwater Monitoring Plan to the Director for approval. The Groundwater Monitoring Plan shall, at a minimum, address the following:

IV.K.4.a. The impact of thermal treatment operations on groundwater up and down gradient of the M-136 and M-225 Thermal Treatment Areas; and

IV.K.4.b. The plan shall identify analytes, sampling protocols and data quality objectives for the groundwater monitoring program. In addition, the plan shall propose a statistical method for determining if existing groundwater contamination concentrations increase due to ongoing thermal treatment operations.

IV.L. ECOLOGICAL RISK

IV.L.1. Within 180 days of issuance of this Permit or completion of the human health risk assessment, ~~which ever~~whichever occurs later, the Permittee shall submit an Ecological Risk Assessment Protocol document for evaluating thermal treatment operations to the Director for approval. If the Director does not approve the Ecological Risk Assessment Protocol document, he shall provide written comments to the Permittee identifying the deficiencies in Ecological Risk Assessment Protocol document.

The Permittee shall address the comments and submit a revised Ecological Risk Assessment Protocol document to the Director for approval within 60 days of receipt of written comments.

IV.L.2. Within one year of receiving approval of the Ecological Risk Assessment Protocol document, the Permittee shall submit an Ecological Risk Assessment for evaluating thermal treatment operations to the Director for approval. If the Director does not approve the Ecological Risk Assessment, he shall provide written comments to the Permittee identifying the deficiencies in Ecological Risk Assessment. The Permittee shall address the comments and submit a revised Ecological Risk Assessment to the Director for approval within 60 days of receipt of written comments.

IV.L.3. Within 30 days of receiving approval of the Ecological Risk Assessment, the Permittee shall submit a request to modify Condition II.G. of this Permit in accordance with Condition I.D. to add performance standards for the acceptable ecological risk associated with the operation of both of the Promontory Thermal Treatment areas.

~~IV.M. HUMAN HEALTH RISK~~

~~IV.M.1. The Permittee shall submit the Waste Characterization and Air Dispersion Modeling Report, which will be used in the Human Health Risk Assessment, within 120 days of receiving approval for the Waste Characterization and Air Dispersion Modeling Protocol from the Director. If the Director does not approve the Waste Characterization and Air Dispersion Modeling Report, he shall provide written comments to the Permittee identifying the deficiencies in the document. The Permittee shall address the comments and submit a revised Waste Characterization and Air Dispersion Modeling Report to the Director for approval within 60 days of receipt of written comments.~~

~~IV.M.2. The Permittee shall submit the Human Health Risk Assessment Report within 90 days of receiving approval for both the Human Health Risk Assessment Protocol and the Waste Characterization and Air Dispersion Modeling Report. If the Director does not approve the Human Health Risk Assessment Report, he shall provide written comments to the Permittee identifying the deficiencies in the document. The Permittee shall address the comments and submit a revised Human Health Risk Assessment Report to the Director for approval within 60 days of receipt of written comments.~~

~~IV.M.3. Within 30 days of receiving approval of the Human Health Risk Assessment, the Permittee shall submit a request to modify Section II.G. of this Permit, in accordance with Condition I.D., to establish annual risk thresholds that are based on the findings of the approved human health risk assessment for operation of both of the Promontory Thermal Treatment areas.~~

IV.~~N~~M. FACILITY MODIFICATION/EXPANSION

IV.~~N~~M.1. Modification of the design plans and specifications in Attachment 6 or construction of additional treatment units shall be allowed only in accordance with UAC R315-4-1.5.

IV.~~O~~N. CLOSURE AND POST CLOSURE

IV.~~O~~N.1. The Permittee shall close the Promontory Thermal Treatment Areas in accordance with the Closure Plan in Attachment 5.

IV.~~P~~O. PROMONTORY THERMAL TREATMENT AREAS OPERATING RECORD

IV.~~P~~O.1. The Permittee shall maintain an operating record at the Promontory facility that describes the operation of the Thermal Treatment areas. The operating records for the M-136 and M-225 Thermal Treatment Areas shall, at a minimum, include the following information:

IV.~~P~~O.1.a. All information required by UAC R315-8-5.3;

IV.~~P~~O.1.b. Copies of all inspections required by this module;

IV.~~P~~O.1.c. All waste tracking information maintained in the electronic Waste Tracking Record identified in Attachment 11;

IV.PO.1.d. A description of the meteorological conditions described in Condition IV. C.3.e during each burn;

IV.PO.1.e. Copies of all reports identified in Condition II.G.1. and required by Condition II.G.2. and IV.K and IV.L; and

IV.PO.1.f. A running total of the type and quantity of reactive hazardous waste that has been treated at both of the Promontory Thermal Treatment areas during the calendar year.

ATTACHMENT 5

CLOSURE COSTS

CLOSURE PLAN AND FINANCIAL REQUIREMENTS

This Closure Plan describes the steps that will be taken to close the hazardous waste management units (HWMUs) at the ATK Launch Systems Inc. – Promontory (ATK) facility. Closure Cost estimates are maintained in the Operating Record once approved by the Director. HWMUs included in this document are: M-186; M-705S; E-501; M-136; M-225; T-29B; M-629 and S-633.

The Closure Plan was developed to comply with R315-8-7 and R315-8-9.9 of the Utah Administrative Code (UAC). UAC R315-8-7 incorporates by reference the requirements of 40 CFR 264 Subpart G. The closure cost estimates were made in accordance with UAC R315-8-8, which incorporates by reference the requirements of 40 CFR 264 Subpart H.

All HWMUs in current operation are being managed in a manner that facilitates clean closure. Historical sites, such as the LTTAs do require post closure care, and are covered in our Post Closure Permit.

1.0 Closure Plans [40 CFR 270.14(b)(13), 270.23(a)(2), and 264.112(a)(1) & (2) and UAC R315-3, R315-8]

This Closure Plan identifies the general steps needed to close storage and treatment facilities, as identified above, at the end of their operating life. Copies of this plan will be maintained at the Promontory Facility. The closure plans will be followed as written, unless modification to the original plans have been submitted and approved by the Utah Department of Environmental Quality, Division of Solid and Hazardous Waste (DSHW). Upon update/revision approval, revised pages or complete documents will be sent to all plan addressees.

1.1 Closure Performance Standards [40 CFR 264.111 and UAC R315-8-7]

Closure standards specified under RCRA are designed to be protective of human health and the environment. These goals will be achieved by one of the following closure methods:

- Clean closure – this method refers to residential risk based levels. Cleanup to residential risk based levels, as outlined in UAC R315-101, will be considered clean closure. Clean closure includes removal of all contaminants, or removal to the risk based level.
- Site Management – closure where waste remains in place and specific post closure care is required.

For the purposes of estimating closure costs, it is assumed that all of the HWMUs will be "clean closed". Clean closure can be achieved by cleaning the units to background conditions or by meeting the clean closure equivalency as defined in UAC R315-101-6(c)(1). All closures will assess real and reasonably likely impacts to human and ecological exposures.

Preliminary remediation goals can be established prior to implementing any of the closure plans. Screening levels published by USEPA or site-specific risk based levels based on UAC R315-101-5.2 may be used.

If contamination from hazardous waste or constituents is discovered at a HWMU above risk based goals, further investigation will be performed to determine the extent of the contamination. Based on the results of this investigation, a Corrective Measure Study (CMS) may be prepared for review and approval by the DEQ, prior to implementation.

If investigation suggests that clean closure is not a practicable approach, a Site Management Plan will be prepared. Upon approval, the unit will be closed by implementing appropriate site management or post closure requirements. If this approach is necessary, the Post Closure Permit may be modified to provide post closure care for the sites that are not clean closed.

1.2 Partial Closure and Final Closure Activities [40 CFR 264.112(b)(1) through (b)(7) and UAC R-315-8-7]

This plan is designed to accommodate both partial and final closure. The plan includes separate steps to close storage, consolidation & disassembly areas, and open burning/open detonation areas. A detailed plan for closing each HWMU will be submitted in accordance with Permit Condition III.J.2.

Soil monitoring has been conducted at the M-136 and M-225 burn grounds since 1991. Semi-annual groundwater monitoring is also conducted, in accordance with ATK's Post-Closure Permit.

1.3 Maximum Waste Inventory and Disposal Method [40 CFR 264.112(b)(3) and UAC R315-8-7]

The maximum inventory of hazardous waste onsite at any one time during the life of the facilities is based on permit limitations for inert facilities, and Quantity/Distance(QD) limitations for live materials, based on Department of Defense Explosive Safety Standard 4145.26M or a lesser designated amount. If storage capacities change, the Permit will be modified. These quantity limitations are listed below:

M-186 (inert)	400 ea. 55 gallon drum equivalent
M-705S (inert)	32 ea. 55 gallon drum equivalent
E-501 (inert)	160 ea. 55 gallon drum equivalent
M-136 (live)	12506,5000 lbs 1.3 / 20,000 lbs 1.1
M-225 (live)	55,000 lbs 1.3 / 1,500 lbs 1.1
T-29B (inert)	1 ea. 55 gallon drum (pure) equivalent
M-629 (live)	110,000 lbs 1.3 / 55,000 lbs 1.1
S-633 (live)	75,000 lbs 1.3/20,000 lbs 1.1

ATK treats reactive hazardous wastes on-site at the M-136 and M-225 open burning grounds. Wastewater is collected and treated on site and discharged through one of two UPDES permitted

treatment facilities. All other hazardous wastes are transported by commercial carrier to fully permitted disposal or recycling facilities.

1.4 Schedule for Closure [40 CFR 264.112(b)(6) and UAC R315-8-7]

Section 1.4.1 of this plan provides an estimated closure schedule for all activities associated with implementation of this Closure Plan. If sample results indicate the need for additional investigation or a CMS, the schedule will be modified to accommodate the changes. Final closure will be certified by an independent professional engineer licensed in Utah.

1.4.1 Time Allowance for Closure [40 CFR 264.113(a) and (b) and UAC R315-8-7]

Final closure is expected to be initiated within 30 days following shipment of the final volume of hazardous waste. If more time is required, a request will be submitted to the Director. All hazardous wastes will be removed or treated within 90 days of (1) plan approval, or (2) after receiving the final volume of hazardous waste, whichever is later. Final closure activities will be completed within 180 days of (1) plan approval, or (2) after receiving the final volume of hazardous waste, whichever is later.

1.4.2 Extensions for Closure time [40 CFR 264.113(a) and (b) and UAC R315-8-7]

If closure activities cannot be completed within the time designated in this Closure Plan, a permit modification and request for additional time will be submitted to the DSHW. The request will state the reason for needed additional time and the status of the closure underway. It will also address any added measures that must be followed to minimize any threats to human health or the environment during the extension period.

1.5 Closure Procedures [40 CFR 264.112 and 264.114 and UAC R315-8-7]

All permitted treatment and storage facilities have been designed and managed to minimize possible contamination. This includes chemical resistant concrete coatings, blind containment sumps, regular inspections, regular maintenance, and prompt cleanup of any spilled materials. These practices should greatly reduce the need for significant remediation efforts upon closure.

1.5.1 Soil and Groundwater Sampling

Groundwater sampling is not covered under this plan. A groundwater monitoring program is currently in place as discussed above. Soil sampling should not be required for any of the permitted facilities, except for the two burn ground areas (M-136 and M-225) and S-633.

Detailed sampling plans will be submitted in accordance with Permit Condition III.J.2. Samples will first be collected at locations most likely to have been affected by waste management practices – as approved by DSHW personnel. Twenty soil samples will be collected at M-136, eight soil samples will be collected at M-225 and eight soil samples will be collected at S-633. These samples will be sent to a State of Utah certified laboratory for analysis. Sample collection, preservation and handling methods will follow those outlined in the Waste Analysis Plan of this

permit, and will be in compliance with all applicable SW-846 methods. All samples will be processed and analyzed by a Utah Certified Laboratory in accordance with R444-14-3(2) UAC. Analytical and extraction methods to be used are shown below.

Analytical and Extraction Methods		
Parameter	Analytical procedure	Extraction Procedure
Volatiles	SW-846; 8260B	SW-846; 5030B(W), 5035S
Semi-Volatiles	SW-846; 8270C	SW-846; 3510C(W), 3550(S)
RCRA Metals	SW-846; 6010B	SW-846; 3005A(W),7471A(S)
Mercury	SW-846; 7470A/7471A	SW-846;7470A(W), 7471A(S)
Explosives	SW-846;8330 Modified	SW-846; 8330 Modified
Perchlorate	EPA 314.0	EPA 314.0

1.5.1.1 Sampling Equipment Decontamination Procedures

All field sampling equipment will arrive on site pre-cleaned, and will be decontaminated following standard protocol and the waste analysis plan in this permit. A mobile decontamination station will be used to clean all sampling equipment that could come in contact with soil samples.

1.5.1.2 Sampling Waste Management

All waste generated from field sampling and decontamination operations will be managed in accordance with the current UAC R315 rules. Water used in the decontamination process will be containerized and sent offsite for treatment or disposal. Soils will be stored in UN containers pending lab results. Any soil determined to be hazardous waste will be managed appropriately.

All non-aqueous hazardous waste generated by the sampling operation will be transported by a third party contractor off site to a fully permitted TSDF for disposal. Any waste determined not to be hazardous under EPA regulations will be sent via third party to a non-hazardous landfill for disposal.

A field log will be maintained to track and identify all samples. This log will include sample numbers, dates, times, sample depth, samplers name, weather conditions, test methods and constituents for which to analyze.

1.5.1.3 Health and Safety Procedures

Soil and water sampling will be performed by trained and qualified personnel. A determination of appropriate personal protective equipment (PPE) to be used for this effort will be determined at the time of closure. PPE selection will be based on potential hazards as determined at the time of closure, and in consultation with Industrial Hygiene professionals.

Soil sampling should only be required at the burn grounds, because of well-maintained secondary containment and waste management practices during the entire life of all other

permitted facilities. Protective clothing appropriate for the task will be used during removal of waste and during decontamination of containment areas for the permitted storage and treatment units.

1.5.2 Determining Cleanup Goals

For the purposes of estimating closure costs, it is assumed that all of the HWMUs will be clean closed. Clean closure can be achieved by cleaning the units to background conditions or by meeting the clean closure equivalency as defined in UAC R315-101-6(c)(1). All closures will assess real and reasonably anticipated potential impacts to human and ecological exposures. It is anticipated that the HWMUs will be clean closed and will not require post-closure care.

1.5.3 Site Cleanup

1.5.3.1 Inventory Removal [40 CFR 264.112(b)(3) and UAC R315-8-7]

The maximum inventory of hazardous waste on hand at any given permitted facility is based on the maximum allowed under this permit, or a quantity - distance limit for explosives, imposed by the Department of Defense and ATK. These limitations are specified in Section 1.3 of this Closure Plan.

Transportation and disposal costs of all hazardous waste during closure of a facility will be based on hiring a third party. The transportation contractor will be licensed and insured, and the disposal facility will be a permitted facility. Reactive hazardous wastes may be open burned on site. Cost calculations for treatment, disposal and equipment decontamination will be based on maintaining an ATK staff sufficient to complete these efforts.

1.5.3.2 Disposal or Decontamination of Equipment and Structures [40 CFR 264.112(b)(4), 264,112(e), and 264.114 and UAC R315-8-7]

Decontamination of equipment and structures at the Promontory facilities will follow one of two plans. These plans cover the open burning units, and all other facilities.

The open burning facilities use burn trays, pipes, concrete vaults or rocket cases to contain the waste to be treated. Most of the material burned is hazardous by characteristic only. Any waste that may be contaminated with, or contains solvents or hazardous heavy metals is designated as a derived waste, and the ash collected for offsite disposal. Therefore, except for the derived trays, all ash in trays, vaults, cases, and on the ground around these units will be collected and disposed on-site. The burn trays will then be high pressure water washed and the rinsate collected for disposal. After the final rinse, a composite sample from the trays will be collected and analyzed at a Utah certified lab to verify proper tray decontamination. Each sample will include rinsate from 5 trays. Samples will be extracted and analyzed as described in 1.5.1.

All facilities except for M-136, M-225, M-629 and S-633 are designed with secondary containment. The secondary containment includes a concrete pad with curbing and blind sump to simplify cleaning. The containment pads and sumps are coated with a chemical resistant

epoxy to prevent liquid migration through the concrete. Secondary containments are inspected daily, when in use, and maintained as needed. After removal of all containerized waste, the liquid chemical containment pads of facilities E-501, M-186, M-705S, and T-29B will be high pressure water washed, and the rinsate will be collected for disposal. After the final wash, rinse water samples will be collected from each sump and characterized for disposal. Samples will be sent to a State certified laboratory for analysis.

1.5.3.3 Closure Containers [40 CFR 264.178, 264.112(b)(3), and 270.14(b)(13) and UAC R315-8-9.9, R315-807, and R315-3-5(b)(13)]

Non-reactive hazardous waste requiring off-site disposal will be placed in a UN or a bulk USDOT authorized containers for offsite shipment to permitted disposal facilities. Empty containers will be cleaned in compliance with 49 CFR, and sent for disposal.

2.0 Closure Certification [40 CFR 264.115 and UAC R315-8-7]

Within 60 days of completion of closure of each facility, ATK will submit a certification to the DSHW by registered mail, that the hazardous waste management facility was closed in compliance with this Closure Plan. This certification will be signed by ATK and an independent registered professional engineer licensed in Utah. Documentation supporting the engineer's registration will be provided upon request.

3.0 Closure Cost Estimate [40 CFR 264.142]

Closure cost estimates are maintained in the operating record once approved by the Director. Closure cost estimates are based on using a third party except for the thermal treatment and disposal of reactive waste which will be conducted on site.

4.0 Financial Assurance Mechanism for Closure [40 CFR 264.143 and R315-309]

ATK will maintain current financial assurance meeting the requirements outlined in the above referenced Federal and State regulations. ATK will provide documentation to DSHW supporting compliance with financial mechanism requirements.

5.0 Post Closure Plan

If it is determined that a HWMU can't be clean closed, contaminants may be left in place, and a post closure or site management plan will be developed. Any proposal for post closure care or site management will be developed in accordance with UAC R315-8-7, UAC R315-8-8 and 40 CFR 264 Subparts G and H, and will be submitted to the Director for approval. If this approach is necessary, the Post Closure Plan may be modified to provide post closure care for the sites that are not clean closed.

ATTACHMENT 9

CONTAINER MANAGEMENT PROCEDURES

CONTENTS

9 USE AND MANAGEMENT OF CONTAINERS

9-1 PURPOSE AND SCOPE

ATK Launch Systems – Promontory (ATK) currently manages the drum storage areas at M-186, E-501, M-705S, the solid propellant storage building M-629, storage pad S-633 and solid propellant storage in burn trays and at Burn Station 14 at M-136 in accordance with the Division of Solid and Hazardous Waste Administrative Rules R315-8-9. These waste storage areas are owned and operated by ATK. All containers are being temporarily stored waiting thermal treatment on-site, or shipment off-site for recycling, treatment and/or disposal.

The drum storage site at M-186 is designed to hold 400, 55-gallon drums of various types of waste intended for treatment or disposal. The drum storage site at E-501 is designed to hold 160, 55-gallon drums of various types of waste intended for treatment or disposal. The M-705S storage and consolidation room is designed to store a maximum of 32, 55-gallon drums, both rooms include palletainers of various types of waste intended for consolidation or lab packing. For solid propellant storage capacities, see Module III section E.

9-1.1 Facility Description

The M-186 storage pad is permitted for the storage of the hazardous wastes identified in Permit Condition III.B.1. The storage pad is divided into five storage bays to keep incompatible materials separated. The pad is a coated concrete floor with secondary containment. The M-186 storage facility is shown in Figure E-1 of Attachment 6.

The E-501 storage pad is permitted for the storage of the hazardous wastes identified in Permit Condition III.B.1. The pad is a coated concrete floor with secondary containment. The E-501 storage facility is shown in Figure B-1 of Attachment 6.

The M-705S Storage and Consolidation Room is a single room with a coated concrete floor and secondary containment. It is permitted for the storage of the hazardous wastes identified in Permit Condition III.B.1. The room is equipped with plastic containers to keep incompatible materials separated. Poly-spill pallets are used to provide separate containment for each consolidation drum and lab pack drum as needed. The M-705S storage facility is shown in Figure C-1 of Attachment 6.

M-629 is designed for storage of solid propellant/explosives. This building is sited for the maximum quantity of propellant/explosives based on Quantity/Distance, DOD siting criteria found in the contractor safety manual, 4145.26m. Each building is set up to permit proper grounding and cross bonding as appropriate. The M-629 storage facility is shown in Figure 6-D of Attachment 6.

Storage Pad S-633 is designed for storage of solid propellant/ explosives. It is secured by a perimeter fence, a vehicle access gate that can be locked, and has the appropriate warning signs for a storage area. It has a road base surface, and has lighting protection. Precipitation run-on or run-off is prevented by a combination of diversion ditches, collection ditches and trenches. The S-633 storage pad is shown in Figure J-1 of Attachment 6.

The storage of solid propellant wastes ~~received from off-site at~~ M-136 ~~is only permitted for a maximum of 14 days. This~~ includes waste stored in containers placed in burn trays and waste rocket motors that contain solid propellant placed on the ground at Burn Station 14. The storage of waste materials received from off-site at M-136 is permitted in order to facilitate more efficient and safer waste handling practices, and to accommodate delays in waste treatment due to weather or other uncontrollable delays. Storage of this waste will be in compliance with this permit and R315-8-9.

9-2 MANAGEMENT OF CONTAINERS

9-2.1 Types of Containers for Storage

The containers to be used for storage, lab packing, or consolidation at M-186, E-501, and M-705S will meet the UN or USDOT criteria or will be a sturdy liquid tight alternative container. No more than 400 drums will be stored at M-186; 160 drums at E-501; and 32 drums at M-705S. Substitute containers will reduce the number of drums that can be stored based on the volume of the container chosen.

The containers that will be used for storing solid, reactive wastes at M-629 and S-633 include rocket motor cases, covered drums, boxes, plastic bags, woven bags, slids, and US Department of Transportation (DOT) approved shipping containers. The standard containers used at the Facility are described in Attachment 11, Section 11.4.

All solid reactive waste ~~received from off-site and~~ stored at M-136 will be stored in containers as described in Attachment 11.4. Storage of these containers is permitted in liquid tight burn trays or on the ground at Burn Station 14 for intact rocket motors. All containers will be kept closed during storage.

Lab pack and consolidation drums used for different compatibility groups will be separated using a portable secondary containment system (PSCS) such as a Poly-spill pallet. The PSCS will have the capacity to hold a minimum of 55 gallons. Most PSCSs are unsatisfactory for storing most organic waste; therefore, flammable/combustible waste lab packs or consolidation drums will be placed on a pallet and stored on the floor using the room's containment system. Lab pack and containment drums with non-hazardous waste will be stored on the floor. Non-hazardous waste found to be incompatible with solvents would be placed on a PSCS for which it was found to be compatible. All full consolidation or lab pack drums will be transferred from M-705S to a permitted storage facility to stay within M-705S's storage capacity.

TABLE 9-2
HAZARDOUS WASTE COMPATIBILITY FOR STORAGE AT
M-186, E-501, M-705S, M-629, and S-633

General Compatibility Groups	DOT Hazard Class in Group
1. Flammable/combustible liquids and non-flammable solvents	a. Flammable Liquids b. Combustible Liquids
2. Corrosives (acids)	a. Corrosive Liquids (acids only)
3. Corrosives (bases)	a. Corrosive Liquids (bases only)
4. Reactive Chemicals	a. Organic Peroxides b. Oxidizes
5. Toxic Chemicals	a. Toxic b. Infectious
6. Explosives	a. 1.1 b. 1.3

9-2.3 Storage of Containers

M-186, E-501 and M-705S

Before any waste container is accepted at M-705S, E-501, and M-186, it shall be inspected to determine whether the waste matches the identity of the waste specified on the accompanying manifest or shipping paper. In addition, the containers shall be inspected to ensure that they are in good condition, are closed, and labeled in accordance with 40 CFR 262.34 (incorporated by reference in R315-5-3.34) and R315-5-3.31.

If the drum is found to be unacceptable, it must be immediately repacked and relabeled or the waste transferred to a new drum. Each drum or container must be entered into the operator's log (see Section 9-2.5) when the drum or the container is accepted in to the drum storage area. A forklift and/or pallet jack is used to move the pallet into the storage area.

Drums or containers in the holding bays at M-186 and at E-501 will be sampled according to Attachment 1 of this permit. The wastes are accumulated until enough containers exist to complete a load. The containers are then loaded into a truck and shipped to the disposal facility for proper treatment and/or disposal.

All drums stored at the M-705S, E-501, and M-186 storage areas will be stored with either both plugs closed or with the top of the drum sealed. No waste containers will be open unless waste is being added or removed. Adding or removing waste will only occur at these storage facilities if a container is damaged, leaking, for sampling, for waste consolidation, and/or for lab packing. A container may be filled if spilled material is found in a sump during the transfer of waste containers. A container being filled or replaced will be located in the containment area. This will provide containment if any spillage results from an incident during transferring procedures. Precautions to be taken during the transfer of the waste include: insuring all transfer equipment (i.e., hoses, pumps, funnels) is located inside the containment area; ensuring a proper drum is used when transferring waste material.

An aisle space of 30 inches minimum between containers or pallets of containers will be maintained at storage areas M-186 and E-501. Hazardous waste stored in containers at M-705S, M-629, S-633 and M-136 will be stored so that they may be readily inspected and hazardous waste labels are visible. 55-gallon drums may be stacked at a maximum of two high at storage areas M-186 and E-501 only. Containers stored at M-629 and S-633 that can be safely stacked, such as flare or munition boxes, may be stacked to a maximum height of 6 feet.

All storage containers shall have hazardous waste labels attached that meet the requirements of 40 CFR 262.34 (incorporated by reference in R315-5-3.34). All personnel required to complete RCRA labeling shall receive training as appropriate.

M-629 and S-633

All waste propellant/explosives stored at M-629 and S-633 must be entered into the operating record. Building and storage pad inspections must begin upon first receipt of material and end when all hazardous waste has been removed from the building or storage pad. All containers must be kept closed except when adding or removing waste. Adequate aisle space must be provided to permit proper container inspection. Total quantity limitations are as outlined in module III section E.

All containers shall have hazardous waste labels attached that meet the requirements of 40 CFR 262.34 (incorporated by reference in R315-5-3.34).

M-136 Burn Trays and Burn Station 14

All solid reactive wastes received from off-site shall be inspected prior to placement into burn trays or Burn Station 14 at M-136 to determine whether the waste matches the identity of the waste specified on the accompanying manifest or shipping paper. In addition, the containers shall be inspected to ensure that they are in good condition, are closed, and labeled in accordance with 40 CFR 262.34 (incorporated by reference in R315-5-3.34) and R315-5-3.31.

If a container holding hazardous waste is not in good condition, e.g., apparent structural defects, or if it has begun to leak, ATK personnel shall take steps as appropriate to prevent a release from the container to the environment.

Prior to placement of hazardous wastes into burn trays, the tray shall be inspected as outlined in Attachment 2. Once the container or waste rocket motor is received ~~from off-site~~it is placed in a burn tray or Burn Station 14, the date of the placement shall be added to the hazardous waste label~~, beginning the 14 day maximum period which the waste may be stored~~.

Containers stored in burn trays at M-136 shall remain closed during storage, except when it is necessary to add or remove waste. A container holding hazardous waste shall not be handled or stored in a manner which may rupture the container or cause it to leak. Containers shall be stored such that the hazardous waste labels may be readily inspected.

9-2.4 Inspections

All container storage areas are inspected on at least a weekly basis. Details of inspection requirements for the storage areas are outlined in Attachment 2. If a container is found with severe corrosion, structural defects, rusty bungs, or leaking, the contents or the entire container must be immediately transferred into a new container. The new container must be numbered and labeled with exactly the same number and label as the old container. The date and time of any transfer action must be noted in the inspection log.

9-2.5 Operating Record

All waste brought into the M-186, E-501, M-705S, M-629, S-633 and M-136 storage areas are entered into a hazardous waste log compliant with R315-8-5.3. This log is kept for all wastes.

If a waste material is consolidated, the consolidation drum is recorded in the hazardous waste log in such a way as to allow the consolidated material to continue to be tracked. Waste materials to be lab packed are placed in a lab pack drum and recorded in a hazardous waste log in such a way as to allow the material and the drum to also be tracked.

The operating record is kept for all hazardous wastes. These records are used to track wastes as they come in from on and off-plant generators and satellite generator facilities.

9-3 LAB PACKS AND WASTE CONSOLIDATION

9-3.1 Lab Pack Preparation

ATK disposes of several hazardous wastes in lab packs. Completed lab packs are stored in the drum storage bays. Before a lab pack is accepted at the drum storage bay, it must be prepared, labeled, and documented in accordance with 40 CFR 262 Subpart C (incorporated by reference in R315-5-3.34) and R315-5-3.31.

Materials in small containers may be stored at the lab packing and consolidation room at M-705S or at M-186 for lab packing or waste consolidation. The materials are separated into compatibility groups based on DOT hazard classification. The materials are generally in small containers ranging from one or two ounces to 5-gallon cans. The small containers are then stored in palletainers or on a shelf until ready to lab pack or consolidate. Incompatible materials are not allowed to be stored in the same palletainer, or containment bay.

9-3.2 Lab Pack Labeling

Each waste container must be labeled with a complete hazardous waste label.

9-3.3 Containment Sealer

The concrete containment area where consolidation and lab packing occur at M-186 and M-705S, is sealed with a high build polyamide epoxy coating system or equivalent. The Material Safety Data Sheet and compatibility chart for this material can be found on the manufacturer's web site.

9-3.4 Lab Pack Compatibility

Under no circumstances will a lab pack contain wastes that are incompatible. Compatibility of wastes will be determined by using the MSDS or other reference sources. If a waste is not found in the reference material, then the material will be assumed incompatible with all wastes and lab packed separately unless research by Environmental Waste Disposal's technical staff documents compatibility. Lab packing will be done in accordance with USDOT regulations and the requirements of the disposal company.

9-4 CONTAINMENT

9-4.1 Capacity of Containment

All the container storage areas and consolidation/lab packing areas at M-186, E-501, and M-705S are designed to hold a minimum of ten percent of the volume of waste stored in the area or the volume of the largest container, which ever is greater. Table 9-5A summarizes the calculations.

TABLE 9-5A Containment Capacity of Drum Storage Areas			
Storage Container	Number of Drums to be Stored	Needed Containment	Containment Available
M-186 Storage Bay	80 Drums	440 Gal	980 Gal
E-501 Storage Pad	160 Drums	880 Gal	895 Gal
M-705S Room	16 Drums*	88 Gal	830 Gal
M-705S Poly-spill pallet	4 Drums	55 Gal	85 Gal
* Includes Palletainers			

Storage building M-629 and storage pad S-633 are not permitted to store liquids. Each container will be inspected to assure no liquids are present upon arrival at the storage facility. Storage building M-629 is fully enclosed to prevent contact of waste with rain water, and does not require secondary containment. Roof leaks must be repaired as soon as is practicable. Storage pad S-633 is located within the M-136 Thermal Treatment Area. Any rain water falling on the pad is collected in the M-136 storm water run-on/run-off control system.

9-4.2 Containment Sealer

The containment area at the M-186 and M-705S storage facilities are coated with an epoxy resin to resist liquid penetration. No leakage or spillage is anticipated during waste storage; however, in the event spills or leaks do occur, the epoxy will prevent the material fro~~r~~m penetrating the concrete.

The containment system at E-501 is coated with an epoxy sealer that is a high-build chemical resistant coating. The chemical compatibility and properties of this epoxy are available from the manufacturer.

9-4.3 Removal of Free Liquids From Containment Area

Removal of free liquids at M-186, E-501, and M-705S must be done with a pump or vacuum truck. When free liquids are found in the sump, a portable drum pump, either electric or hand operated, is used to transfer the liquid to a UN 55 gallon drum. A vacuum truck can also be used to pump out collection of rain water and snow melt. Water pumped with the vacuum truck will be taken to a UPDES permitted waste water treatment facility (M-705) for processing. All free liquids taken from the sumps will be managed as hazardous wastes until waste analysis or inspection dictates otherwise.

Precautions will be taken to avoid spills. All spills are cleaned immediately, unless the size demands spill response. After the liquids are transferred into drums, a sample will be taken form each drum according to the sampling procedure in the Waste Analysis Plan, contained in Attachment 1. The drums will be managed as hazardous waste until a determination has been made classifying the contents. If the analysis indicates the liquid is a hazardous waste as defined by the Division of Solid and Hazardous Waste Administrative Rules R315-2, then the drums will continue to be managed as a hazardous waste. If the liquid is a wastewater, the liquid will be taken to M-705 Wastewater Treatment Facility.

Occasionally, small amounts of liquid such as nitroglycerine can drip from rocket motors onto the concrete floor. These drips are typically less than 1-inch in diameter and may drip as much as once per week. Any sign of out-of-place waste will be checked during the regular inspections outlined in Attachment 2. Clean up of dripped materials will be completed as soon as is practicable using rags and acetone or other appropriate cleaners.

M-136 Burn Trays

Although the burn trays at M-136 are permitted for the storage of ~~off-site~~ solid reactive wastes in containers ~~for no more than 14 days~~, some of these containers contain small amounts of desensitizing fluid (e.g. diesel, shingle oil, etc.). Therefore, the containment requirements of R315-8-9.6, as discussed below, apply to the storage of wastes in the burn trays.

The burn trays shall be free of cracks or gaps and be sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.

Spilled or leaked waste and accumulated precipitation shall be removed from the burn trays in as timely a manner as is necessary to prevent overflow of the tray. Inspection requirements for burn trays and the accumulation of liquids are outlined in Attachment 2.

If the collected material is a hazardous waste under R315-2, it shall be managed as a hazardous waste in accordance with all applicable requirements of the State of Utah Hazardous Waste Management Rules. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.

9-5 RUN-ON AND RUN-OFF CONTROL

Run-on and run-off water is prevented form entering the M-186 and E-501 drum storage pads. Three sides of each pad contain a curb that is six inches in height and a sloped grade in the front that is three inches above the ground surface. Each pad has sufficient height to prevent run-on from entering the drum storage containment system. Detailed drawings of these facilities are contained in Attachment 6.

The storage facility at M-705S is totally enclosed to prevent any run-on water from entering the building.

Calculations have been performed for the M-186 storage pad and these indicate that no run-on or run-off should enter the storage building and affect the capacity of the containment area. The calculations were based on a 24-hour, 25-year storm event and were submitted with the Part B Permit Application.

The terrain around the burn grounds and storage pad S-633 has been graded and drainage ditches surround the area in order to minimize run-on/run-off. The topography and drainage ditches at M-136, M-225, and S-633 are shown in Attachment 11 Figures 11-1 and 11-2, and Attachment 6 Figure J-1.

In addition, all waste will be in water tight burn trays to prevent run-on and run-off. Waste Rocket motors will be covered to eliminate contact with rain water.

9-6 REQUIREMENTS FOR IGNITABLE AND REACTIVE WASTES

All container storage areas are located more then 50 feet from facility property lines. The aerial photograph contained in Attachment 6 (Figure 6A) shows the property boundaries and facility location.

ATTACHMENT 11

M-136 and M-225 Thermal Treatment Operations

11.0 PROCESS INFORMATION

All reactive waste management operations at the facility are conducted and are under the management of ATK. The reactive waste management process is described in the following text.

11.1 Facility Description

The ATK Promontory facility is located in a remote area of west Box Elder County, Utah, approximately 30 miles northwest of Brigham City, and approximately 11 miles north of the Great Salt Lake. The facility was purchased by Thiokol in 1956, with the exception of a 1,500-acre tract that was sold to the U.S. Air Force in 1958 and then repurchased in 1995. The facility has been held in its entirety since purchase.

ATK Launch Systems conducts thermal treatment of reactive hazardous wastes at two treatment units: (1) the main facility, M-136, located centrally to the two main manufacturing sites; and (2) M-225 located in a remote development location called Plant III.

M-136 is the primary treatment area for conducting open burning at the Promontory facility. Open detonation is also conducted at M-136 which is a secured fenced facility within the main facility fence.

The M-225 treatment area receives small amounts of the reactive hazardous waste materials from the Plant III propellant development area. The M-225 treatment unit is surrounded with an 8-foot high chain link fence. The waste materials are treated via open burning or open detonation.

The M-136 and M-225 treatment areas are fenced and are located within a controlled and fenced facility that is patrolled and maintained by a security department. The treatment areas have warning signs posted around the perimeter. The vegetation is controlled within the treatment areas through application of herbicide and putting in place loads of gravel and road base. Surrounding both treatment areas are a large system of fire breaks that are constructed using large equipment to till and cultivate a large strip of land removing any vegetation. The system of fire breaks are designed to contain a fire within its boundaries.

Contained within the boundaries of the M-136 treatment area are twelve former surface impoundments called Liquid Thermal Treatment Areas (LTTAs). These impoundments were used for the disposal of hazardous waste and wastewater and then capped and closed. The units are currently under post closure care and managed through a Post Closure Permit which includes requirements for groundwater monitoring and corrective action. The Post-Closure groundwater monitoring program includes all wells around the M-136 and M-225 treatment areas as part of the groundwater monitoring system. These wells are routinely monitored thorough the permit requirements which includes the Sampling and Analysis and Quality Assurance Plans.

The Promontory facility is located in the Blue Spring Valley which is bounded on the east by the Blue Spring Hills and on the west by Engineer Mountain and the Promontory Mountain ranges. Within the Blue Spring Valley, the terrain is characterized by topography that slopes down from the mountain crest at an elevation of approximately 6,050 feet above mean sea level (AMSL) toward the center of the

Blue Creek Valley at an elevation of 4,250 feet AMSL. As a result, the surrounding environment extending out to 6.2 miles (10 kilometers) from both treatment units can be characterized as complex terrain.

GEOLOGY

The ATK facility is located in the Southern Blue Creek Valley, northwest of the Salt Lake Valley, which is the eastern most structural valley of the Basin and Range physiographic province, which includes parts of Utah, Idaho, Nevada, Arizona, and New Mexico. The Basin and Range province consists of a number of north-south aligned mountain ranges and valleys bounded by high-angle normal faults. The Blue Creek Valley, in which ATK is located, is bounded on the east and west by the Blue Springs Hills and the Engineer and Promontory Mountain ranges, respectively. Movement along the faults has displaced the mountains upward relative to the adjacent valley. Likewise, the mountains immediately west of ATK are bounded on their eastern margin by one or more faults which are partly buried by recent deposits.

Bedrock, composed of Middle Paleozoic shale, sandstone, and limestone, is exposed in the ranges adjacent to the site. The bedrock is highly fractured with some folding.

During the Mississippian and Permian Periods, marine sediments consisting of sand, clay, and calcareous detritus were deposited in shallow marine environments. In the late Cretaceous Period, compressional forces from the west resulted in folding and thrust faulting in conjunction with uplift of the region into mountain ranges. Extensive jointing and fracturing of the bedrock were caused by this folding and faulting episode. Tensional stresses in the early to middle Tertiary Period resulted in north south trending normal faults that formed a series of high linear mountain ranges with intervening basins which received sediment from adjacent highlands. This activity was associated with volcanism and ancient lake deposition.

In the late Tertiary Period, a series of geologic units tentatively identified as the Salt Lake Group were formed from deposition of sediments in large lakes which developed within the valleys. These lake deposits are composed primarily of silts and clays with minor amounts of sand and gravel and are characterized by low to moderate permeabilities; extensive deposits of volcanic ash are also present in the Salt Lake Group. The alluvial fan deposits were overlapped by more recent lake sediments of Pleistocene Lake Bonneville, the predecessor to the present Great Salt Lake. Lake Bonneville covered much of western Utah and parts of Idaho and Nevada between about 23,000 and 12,000 years ago. Deposits associated with the lake consist of lakebed and alluvial materials reworked by lake bottom and shoreline processes. Lake Bonneville sediments thicken southward.

The most recent sedimentary deposits consist of stream alluvium and mud and debris flows. The stream alluvium consists primarily of silty and clayey sand and gravel. The mud and debris flow deposits are characterized by a broad gradation of sediments from clay-size fines to boulders as large as 3 feet in diameter.

HYDROGEOLOGY

Ground water in Blue Creek Valley occurs under unconfined and confined conditions. These two conditions exist in fractured and faulted bedrock, lake clays and gravels, unconsolidated alluvium, gravel, and sandy deposits. Precipitation, surface water infiltration, and plant discharges that infiltrate into sediments may migrate slowly,

vertically, and horizontally to form perched water tables above the 50- 150-foot depth of the regional water zone. The perched ground water may eventually migrate to the deeper regional system. The regional system ranges from 50- 600 feet in depth depending on the topographical location. Blue Creek may recharge shallow aquifers in the center of the Blue Creek Valley. The direction of movement within the faulted and fractured bedrock will be controlled by the connection of faults and fractures. Regionally, the ground water flow trend is from north to south. Depth to groundwater at the M-136 treatment units is an average 300 feet. Depth to groundwater at the M-225 treatment unit is 600 feet.

The ground water quality in Blue Creek Valley is generally poor due to naturally occurring chlorides and total dissolved solids. Levels of dissolved solids range from 400 to over 12,000 mg/l. The quality of ground water depends upon the sediments, which it has contacted. Quality is quite good in local, up gradient areas of water recharge, but degrades rapidly as it moves from mountain to the valley axis. High levels of total dissolved solids in lowland areas are probably due to slow migration through Tertiary sediments. Down gradient from the ATK sites, quality deteriorates rapidly as it enters the mudflats of the Great Salt Lake.

CLIMATE

ATK has a 10-meter meteorological tower and instruments to measure and record air temperature, barometric pressure, relative humidity, solar radiation, precipitation, vertical and horizontal wind speed, and direction.

The ATK plant site is classified as semiarid, with an average annual total precipitation of 14.88 inches at the ATK meteorology station. During the winter months, the average total snowfall amounts to 24 inches. Precipitation typically occurs on 95 days out of the year (includes trace precipitation). During the year, it would be expected that 35 percent of the days would be clear, 30 percent of the days would be partly cloudy, 34 percent would be cloudy, and fog would be expected to occur about 1 percent of the time. According to interpreted weather data for the ATK facility, the 25-year storm with 24-hour duration would result in 2.4 inches of precipitation.

Evaporation rates are high throughout the year, with the Great Salt Lake averaging 66 in. a year. The average area evapotranspiration rate is 46.6 inches. The consistently low precipitation and high evaporation allow little if any percolation into subsurface soils.

The average annual temperature in the ATK Promontory area is in the 45 to 50 degree range, with generally hot, dry summers. Relative humidity averages between 20 and 30 percent during summer afternoons. Nights are usually cool, but daytime maximums occasionally exceed 100 degrees F. On clear nights, cold air usually drains from the slopes of the adjacent ranges and accumulates on the valley floor, while the foothills and bench areas, such as at Thiokol, remain relatively warm. The average daily temperature ranges from about 11 to 32 degrees F in January and from about 54 to 91 degrees F in July.

On an annual basis, the winds for the valley tend to prevail from the north during the earlier morning hours and south to southeast, averaging about 10 mph, during the afternoon.

Blue Creek is the only perennial stream in the valley drainage basin and is the closest water body to the M-136 treatment unit. Blue Creek originates some 15 miles north of the Promontory facility from a warm saline spring, which flows along the western boundary of the facility.

The Promontory area is characterized as a very sparsely populated rural region, with primarily dry farms and ranching activities. Low growing perennial grasses and shrubs characterize the vegetation in the area. The ecological habitat found at the Promontory facility includes many head of mule deer and large populations of various birds, rabbit, and predator species.

11.2 WASTE CHARACTERIZATION

Wastes will be characterized to identify hazardous properties to ensure they are properly managed. The Waste Analysis Plan (see Attachment 1) will be used to characterize and classify reactive wastes.

11.3 REACTIVE WASTE DESCRIPTION

The primary products produced at the facility include solid rocket motors, military and aviation flares, and high explosive/high energy compounds. Solid rocket motors are typically cast with composite propellants. Composite propellants are classified as a DOT 1.3 material, and typically contain a non-explosive liquid binder mixed with aluminum powder and ammonium perchlorate. Flares are generally classified as a DOT 1.3 material, and typically contain an inert binder, a metal powder, and an oxidizer. High explosive compounds are generally classified as DOT 1.1 material and are generally nitramine compounds developed for specific military requirements. Reactive wastes are produced from the manufacturing process include, but are not limited to the following: cured and uncured propellants; rocket motors; small initiating devices; explosives articles, propellant scrap; and explosive ingredients such as HMX, RDX, CL-20, explosive contaminated metal powders such as aluminum and magnesium and oxidizers such as ammonium perchlorate and potassium perchlorate. The facility also contains both quality assurance and research and development laboratories. The quality assurance laboratories generate wastes similar to manufacturing wastes. The Research and Development laboratories generate a small quantity, but a wide variety of both explosive compounds and precursors to explosive compounds.

Reactive wastes are characteristic hazardous wastes for reactivity (D003). Nearly all of the reactive wastes are reactive due to the presence of propellants and explosives. Some reactive wastes, such as those from laboratory operations, may contain solvents which would also be a listed waste defined by R315-2 of the UAC. Wastewater treatment sludge generated from the processing of explosives is a K044 listed hazardous waste. Reactive wastes also include materials such as rags, gloves, other personal protective equipment, plastics, rubber and paper contaminated with explosive materials during the manufacturing process.

Reactive wastes may also be received from off-site sources. With one exception, off-site wastes are rocket motors, propellants or explosives with similar formulations and ingredients to those generated on site. The exception is wastes received from Autoliv Automotive Safety Products Inc. (Autoliv) which are generally DOT Class 1.3

materials containing compounds similar in nature to flare products. Ingredients include oxidizers (e.g. ammonium nitrate, copper nitrate, potassium nitrate, strontium nitrate and potassium perchlorate), reactive metal powders (e.g. boron, zirconium, aluminum and magnesium), nitrogen rich fuels (e.g. tetrazole or triazole compounds) and polyacrylimide binders. Many of the Autoliv products were initially developed at Promontory when Thiokol Chemical Corporation operated the site. Autoliv and ATK are co-located, and a working relationship continues between the two companies, which includes open burning reactive wastes generated by Autoliv that can't be commercially disposed.

11.4 REACTIVE WASTE GENERATION AND COLLECTION

ATK uses a variety of containers to store reactive wastes at the Facility. The standard containers used at the Facility are described in this section. However, due to the nature of our business, new types of containers may be required in the future, and can't be described in this application. To ensure that all containers are safe to use, containers will be selected using the DOD Contractor's Safety Manual for Ammunition and Explosives (DOD 4145.26-M). All containers for reactive waste that are currently used, or will be used in the future, will meet the DOD 4145.26-M requirements.

Operating buildings generating reactive wastes use a variety of collection containers as described below:

- **Conductive Containers** –Electrically conductive containers are typically bags made of opaque, volume-conductive carbon-impregnated polyolefin or polypropylene. They can be grounded to prevent he build up of static electricity. The bags are available in a variety of sizes from small containers to large than one cubic yard. They are typically used to line other containers, but can be used without an outside container. Typical conductive containers include Velostat® bags, Velostat® sheet material, and conductive sling bag and Super Sack® containers.

- **Static Dissipative Containers** –Static dissipative containers are typically bags made of a polyethylene material. The material prevents the build-up of static electricity by continually dissipating the charge. These bags are typically used to line other containers, but may be used without an outside container. Typical static dissipative containers include pink poly bags, pink poly sheet material and static dissipative Cromhmiq™ sack containers.

- **Fiberboard drums** – Wastes may be collected directly into commercially available 30-gallon fiberboard drums. These drums have a removable lid that can be sealed in place with a locking chime after the drum is filled. Fiberboard drums selected for this application are approved by DOT for highway transportation of hazardous materials and can be used to ship these wastes off-site for treatment and disposal.

- **Sumps**- Explosive contaminated wastewater is collected in sumps at the point of generation. When appropriate, propellant "chips" and other suspended solids are filtered out before the wastewater reaches the tank, and when the wastewater is pumped out of the tanks. The wastewater is pumped into tanker trucks where it is treated at M-705 and discharged under a UPDES permit. Filters containing "chips

and other suspended solids are accumulated , and treated and disposed of in accordance with the applicable hazardous waste management rules.

- **Other Containers** – Large blocks of cured propellant are containerized by wrapping the waste in plastic and placing it on wood pallets. Ammunition cans are used to hold initiating and ordnance items. Waste rocket motors are generally large enough to be their own container. Plastic buckets are used to hold conductive and static dissipative bags. The buckets are reused and become contaminated with reactive material. The buckets are cleaned by removing the contaminated material using a rag. The contaminated rag is then collected for disposal and managed as directed in UAC 315-5. If a bucket cannot be cleaned, it is managed as a hazardous waste and treated by open burning. Laboratory waste may come in a variety of sizes and types of containers such as plastic, metal or glass. DOT containers for Class 1.1 and 1.3 reactive materials may also be used. A plastic cover secured to a tray may be used as a container for unburned residue or containers of off-site waste stored in a tray for up to 14 days from its receipt to thermal treatment.

Operating personnel accumulate reactive waste in these containers as it is generated. When a reactive waste container is full or at the end of an operating shift, it is closed or sealed as applicable for the container. A hazardous waste label is filled out and attached to the container. Operators at the buildings that generated the waste enter pertinent information into the electronic waste tracking system described in Section 11.5.

Most operating buildings that generate reactive waste have an explosive waste collection area located approximately 50 feet from the operating building. Except as described below, waste containers are placed in the collection area to facilitate removal of waste propellant, explosive and reactive wastes from the operating buildings. The collection sheds are constructed of wood or corrugated metal and are secured to a concrete floor.

When managing reactive wastes, ATK building operators use the temporary collection sheds as 90-day or satellite accumulation stations. Reactive wastes are placed in the collection area either as they are generated or at the end of each operating shift. Waste containers that are not full at the end of a shift are sealed, a hazardous waste label is attached to the container and they are moved to the temporary collection area.

Containerized explosive wastes are picked up from the collection location using a vehicle approved for the transport of explosive wastes. Extreme care is used when handling all explosive wastes. Wastes are transported directly to either M-629, M-633 for storage, or to the M-136 or M-225 burning ground. ~~Reactive wastes generated at Plant 3 are transported to M-225. All other reactive wastes are transported directly to M-136.~~

Propellant and explosive operating buildings at the facility, including explosive waste 90-day storage and satellite accumulation areas, are designed and constructed in accordance with strict federal standards. These standards identify the criteria that must be used to construct buildings where reactive material will be used and/or stored. These standards also require that explosive buildings to be separated by sufficient distance, or a quantity-distance relationship, to prevent an explosive event in one building from propagating to another building. Quantity-distance rules also control the

location of propellant and explosive operating buildings with regard to public property (highways, parks, etc,) and private property. All buildings used for temporary storage of waste explosives, including the temporary storage sheds, are correctly sited with respect to the applicable quantity-distance rules.

11.5 QUANTITY DISTANCE DETERMINATION

The facility uses the Department of Defense (DOD) guidance to calculate quantity distance relationships. The evaluation was conducted according to NAVSEA OP5, Volume 1, Revision 4, Paragraph 11-3.2. The method used to determine safe quantity distance relationships for both Class 1.1 and 1.3 propellants is provided below.

The quantity distance relationship for Class 1.3 propellant is determined by the following formula: $\mathbf{D = 5W^{1/3}}$. Where W is the weight of Class 1.3 propellant and D is the safe distance. The formula applies to Class 1.3 propellant and Class 1.3 propellant ingredients. The safe distance is defined as the interline protection for mass fire for Class 1.3 propellant.

The quantity distance relationship for Class 1.1 propellant is determined by the following formula: $\mathbf{D = 18W^{1/3}}$. Where W is the weight of a Class 1.1 explosive and D is the safe distance. The formula applies to Class 1.1 propellant and Class 1.1 propellant ingredients. The safe distance is defined as the unbarricaded interline protection for Class 1.1 propellant.

11.6 WASTE TRACKING

ATK maintains an electronic waste tracking record to collect and manage information about reactive wastes generated at the facility. This tracking system uses a combination of paper records and an electronic database.

Wastes being accumulated in containers at operating areas within the facility are labeled and managed in accordance with R315-5 of the UAC for either a satellite accumulation or less than 90-day hazardous waste storage area. The electronic tracking system maintains the following information to monitor cradle to grave waste handling practices:

- ID# - container identification number
- Date – accumulation date
- Building # - identifies where the waste was generated;
- RWDI# - identifies the reactive waste disposal instruction
- Profile # - identifies the profile
- Quantity of PEP – quantity of propellant, explosive or pyrotechnic material ;
- Quantity of Contaminated waste - Explosive and total weight of the container;
- Material Description – description of the material
- Propellant name – describes the propellant by type, program other identifier
- Log Date – date logged into the system

The electronic tracking system maintains information on all containers of reactive waste in 90- day storage at M-136 and M-225. It also tracks the total weight of waste placed on each burn tray, and the total weight of waste burned on any given day.

In the event reactive waste is shipped off-site for treatment, the system maintains the following information: the manifest number, transporters, manifest ship date, and manifest return date.

In the event the electronic tracking system is not operable, the information will be tracked using paper copies until the electronic system is operable. In the event this occurs, ATK will transfer all information to the electronic system within 72 hours of the system becoming operational again.

11.7 REACTIVE WASTE STORAGE

ATK may store hazardous wastes prior to disposal. Solid reactive wastes are stored in designated facilities as described in this section, and are segregated according to compatibility requirements.

- **M-629** - This building can be used to store any of the explosive wastes listed in Section 11.3. All containers of waste in storage will be closed except when waste is being added to or removed from the container. Adequate aisle space must be provided to permit proper container inspection. All containers will be labeled and managed in accordance with R315-5 of the UAC. This building is equipped with a fire sprinkler system, which is checked annually. Employees are not permitted to fight fires inside an explosive storage building. This building is totally enclosed, so there are no precipitation run-on or run-off concerns.

- **M136**- trays at M-136 can be used to store waste received from off-site for up to 14 days. All containers of waste must be closed, labeled and managed in accordance with R315-5 of the UAC.

- **S-633**- This storage pad can be used to store any of the explosive wastes listed in Section 11.3. All containers of waste in storage will be closed except when waste is being added to or removed from the container. Adequate aisle space must be provided to permit proper container inspection. S-633 is approximately 100' x 100' in size. It is secured by a perimeter fence, a vehicle access gate that can be locked, and has the appropriate warning signs for a storage area. It has a road base surface, and has lighting protection. All waste containers will be labeled, and managed in accordance with R315-5 of the UAC. This area does not have water immediately available, and relies on the Fire Department for any emergency action. Employees are not permitted to fight fires inside a reactive waste storage area. Precipitation run-on or run-off is prevented by a combination of diversion ditches, collection ditches and trenches.

11.8 TREATMENT OF REACTIVE WASTE

The facility utilizes thermal treatment methods to safely dispose reactive hazardous wastes. Thermal treatment methods include both open burning and open detonation. Reactive hazard wastes may also be shipped off-site and treated at other permitted treatment storage and disposal facilities.

11.8.1 OFF-SITE TREATMENT OF REACTIVE WASTE

All hazardous reactive wastes treated off-site will comply with all applicable local, State and Federal regulations.

11.8.2 ON-SITE TREATMENT

The M-136 and M-225 facilities are thermal treatment units designed to treat reactive hazardous wastes using open burning or open detonation. Treatment by open burning at M-136 is limited to a maximum of 12506,5000, 122,000, or 1,200 pounds per day depending on the treatment scenario. Each burn station 1-12 and 14 may treat all or a portion of the 106,500 pounds. Burn station 13 can treat a maximum of 50,000 pounds per day. Treatment by open detonation will be conducted at burn stations 13 and 14 only, and is limited to 600 pounds per burn stationevent. Figure 11-2 shows the security fence, control bunker, and vehicle access points for M-136.

Treatment by open burning at M-225 is limited to a maximum of 4,500 pounds per day. Each burn station 1-4 may burn all or a portion of the 4,500 pound limit. Treatment by open detonation is limited to the 600 pounds per day in the M-225 open detonation area. Figure 11-2 shows the security fence and vehicle access points for M-225.

The process flow for open burning at both treatment areas is identified below:

1. Pre-planned Activities
2. Placement of Waste in Treatment Units, Wiring and Ignition
3. Post-burn Inspection and Cleanup

The following precautions are used to ensure operator safety while working at the M-136 and M-225 burn grounds:

1. Emergency egress routes are always maintained while employees are working in the treatment areas.
2. The firing systems are disabled using an interlock to prevent accidental ignition.
3. Weather conditions are monitored to assure operators are not exposed to risks from lightning strikes.

11.8.2.1 PRE- PLACEMENT ACTIVITIES

OBOD operations at the facility are a continuous process. Wastes are transported from the generation areas and brought into the treatment areas on a daily basis. Wastes are off-loaded and placed in trays and managed under 90-day rules until treatment occurs. When treatment is completed, the trays are cleaned, inspected and the loading process begins again. Pre-placement inspections occur during the post-burn inspection and clean-up phase of the treatment process.

Prior to placing reactive waste for treatment at the OBOD facilities, operators visually verify the following tasks were completed during post-burn inspection and cleanup activity:

1. Any untreated waste and/or unburned residue has been identified, collected and is being properly managed;
2. Storm water accumulated in the trays has been removed.

3. Trays which do not meet the inspection criteria have been removed from service.

11.8.2.2 PLACEMENT OF WASTE IN TREATMENT UNITS

Reactive hazardous waste is transported to the OBOD facilities using a vehicle which meets explosive safety requirements. Reactive hazardous waste may be offloaded by hand or mechanical means including a knuckle boom, forklift, crane, or other appropriate equipment. Reactive hazardous waste is not collected, transported, or unloaded during a lighting warning, which is defined as lightning within 30 miles of the facility. If collection, transportation, or unloading operation has started, the operation is brought to a safe halt.

Treatment units used to treat and contain waste are listed below but are not limited to, the following:

- **Burn Trays** – Metal trays constructed in several different sizes including, 4'X10', 5'X16', 8'X8', and 8'X20'. Typical construction is out of steel plate A36 grade steel ranging thicknesses of 3/8", ½", ¾", and 1 inch.

- **Clamshell Disposal Trays**– Used for the disposal of items that have the potential to be propulsive. Typical construction is a square welded box 1-inch thick, A36 steel plate with a vented lid that enables treatment of potentially propulsive items, while safely containing the propulsive energy.

- **Restraining Trays are t**ypically constructed of 1-inch thick A36 steel plate welded into a square box that is filled with sand. There are several different designs for restraining trays which include: (1) steel tubes sitting on end in the sand are used to hold potentially propulsive items which are secured to the tube allowing the exhaust to vent out of the open end of the steel tubes, and (2) used without steel tubes where propulsive items are secured at the base for items where the exhaust will vent from the side of the item.

- **Small Motor Disposal Vaults**– Constructed from a concrete 10x10 foot sump filled with sand. Small rocket motors such are placed into the sand with the aft end exposed perpendicular to the ground. Motors are treated with the propulsive force directed into the concrete sump and the sand.

The vehicle containing hazardous waste is to be parked near the receiving tray with any side rails lowered to facilitate offloading of the waste. Containers are transferred directly from the truck and carefully placed into the burn tray. Items to be open detonated are offloaded from the vehicle by hand, knuckle boom, or by forklift and then placed on the ground for treatment

Items that have the potential to be propulsive are off-loaded into the clamshell, sandbox, or small motor disposal vault by hand, knuckle boom, or by forklift. After offloading, items are restrained using engineered restraints allowing for safe treatment. Potentially propulsive items (e.g. rocket motors) may also be off-loaded into station 14 using the knuckle boom, forklift, or crane. The case may be placed on the ground, sand/dirt mounds, chocks, or other support media for treatment.

PEP waste which generates ash or residue which is listed or characteristic is segregated from PEP waste which generates non-regulated ash. Ash and residue is managed as described in 11.8.2.5.

11.8.2.3 WIRING AND IGNITION

After waste has been placed on a tray, the next step is to complete a resistance check on the ignition system. As a safety precaution, a physical interlock (e.g. key) is used to prevent the firing panel from being accidently engaged during the resistance check. The key remains in under the control of the operators during the resistance check and all subsequent operations until the operators return to the control bunker to complete treatment. Each firing stanchion must have 10 ohms or less. A firing stanchion that has a resistance of 10 ohms or greater must be tagged out until repairs are made.

Once the resistance check is completed igniter installation is performed. The igniter is attached to the firing system by connecting the lead wire from the initiating device to the firing stanchion. Igniter installation operations are performed by a minimum of two operators. The types of igniters commonly used are listed below:

1. Burn Grounds Igniter –Propellant with a hot wire
2. Bag Igniters – Propellant, explosive, pyrotechnic with electric match or other electric initiation device.
3. Blasting Caps – Small amount of primary explosive
4. Electric Matches – wire attached to small explosive device
5. Fuse – a tube, cord, or the like, filled or saturated with combustible matter
6. EBW – Exploding Bridge Wire, a wire that contacts explosives fired by a high voltage electricity source
7. TBI – Through Bulkhead Initiator, shock initiation of an energetic material provided through an integral barrier

Linear shaped charge may also be used to facilitate thermal treatment of potentially propulsive wastes and items contaminated with reactive hazardous wastes.

Reactive hazardous wastes may be desensitized by adding one of the liquids listed below. The addition of these liquids modifies the reactive nature of the waste making it safer to store, handle and transport. It also slows the burning rate of the material during treatment.

1. Oils
2. Water
3. Alcohol
4. Triacetin
5. Physical Media (e.g. Conductive and static dissipative packaging)

When necessary, additional burn enhancers may be used to promote a more complete burn. Additives include, but are not limited to, the following:

1. Diesel Fuel
~~1.~~2. Alcohol
~~2.~~3. Wood (e.g. Pallets)
~~3.~~4. Propellant

The burning ground operators verify the treatment area has been evacuated of all personnel before proceeding with ignition. The burning ground operators retreat to the control bunker and close the door. The lockout key is inserted into the control system which allows power to the firing panel. Circuit continuity is checked at the firing panel which verifies that igniters were properly installed. A flashing red light is activated once the firing system is operational to alert personnel inside the area that a treatment operation is about to begin. The appropriate stanchion is chosen and the igniter fired by pressing the ignition buttons. Two operators are required for this operation.

In the event of a misfire, operators must wait a minimum period before reentering the treatment area to correct the problem. If a misfire occurs on the first tray, being burned the process stops, and personnel are required to stay in the bunker for at least 30 minutes. After 30 minutes, the igniter which failed is uninstalled. This process requires two employees and is done by: (1) the two employees performing the task remove the physical interlock and keep it in their possession, (2) the igniter wires are removed from the stanchion where the misfire occurred then twisted together to short the circuit. The igniter is not physically removed from its position. A new igniter is installed, and the operators return to the control bunker and repeat the process.

If a misfire occurs and it is not the first tray in the burn sequence, the operators return after 16 hours and repeat the process described above.

The Box Elder County Dispatch is notified prior to each treatment. This notification can be made by telephone, fax or email, and may be made immediately prior to ignition or an undefined number of hours prior to igniting the waste. Notification must be made the same day as the waste is treated.

11.8.2.4 POST-BURN INSPECTION AND CLEANUP

Following a treatment event, the area where the burn or detonation occurred cannot be re-entered for at least 16 hours after completion of the event without specific approval from ATK management. A preliminary inspection is performed before the cleanup begins. This inspection includes checking for hot spots and checking for unburned reactive hazardous waste. Hot spots include visual indications of hot material (flame, smoke, high temperature). If these conditions exist, post-burn clean is postponed until the hot spots are gone.

All residues remaining on the burn trays are visually inspected to determine if there is any unburned reactive material. Unburned reactive material will be reburned. Depending on the nature of the material that did not burn, donor material or burn enhancers such as diesel or wood may be used to ensure the material will completely burn. Unburned waste ejected from the tray will be collected and placed on a burn tray, and treated in the same manner.

Small amounts of untreated residue will be considered as newly generated waste and will be tracked as such in the tracking system. A small amount is defined as less than or equal to 5% of the total volume placed on the tray or treatment area. The primary option for managing this waste is to burn it by 6pm the following calendar day. If untreated residue cannot be treated by 6pm the following calendar day then it will be managed in accordance with R315-5 of the UAC.

Unburned waste that results from a misfire or an interrupted ignition can remain on a burn tray. An interrupted ignition occurs when anything greater than 5% of the waste on the tray fails to ignite. In this situation, the waste is considered unreacted waste instead of newly generated residue. ATK will attempt to reburn the waste by 6 pm of the following calendar day. If unforeseen circumstances prevent the burn from occurring by 6pm of the following day, the waste will be covered and the burn tray will be labeled and managed as a 90-day storage area in accordance with the requirements of R315-5 of the UAC. The cumulative storage time for the waste both in storage prior to burning and on the burn tray may not exceed 90-days. If it is necessary to storage this waste for greater than 90-days, an emergency permit would be requested.

Typically, the post-burn and cleanup activities described in this section will be conducted the next calendar day following treatment. The clean process begins after the preliminary inspection is completed. Cleaning is accomplished using a variety of tools and equipment such as rakes, shovels, a forklift and a tractor. Ash is classified for disposal as described in 11.8.2.5. The majority of the waste treated is classified as EPA waste number D003 reactive only. The ash resulting from treating D003 reactive waste is collected, and transported to the on-site landfill where it is disposed.

Ash classified as hazardous is collected and managed in accordance with the requirements of R315-5 of the UAC. Ash resulting from the treatment of K044 is collected and disposed in the on-site landfill. After the tray is cleaned, it is inspected for holes, weld cracks, and 6 inches of wall height. If a tray fails the inspection criteria, it is removed from service. These inspections are maintained onsite in the operating record. In the event a tray is not going to be used for an extended period, it is stored in a manner to prevent stormwater accumulation (e.g. stored upside down or with a lid). If accumulated liquid is present in a burn tray it is removed and delivered for treatment at a UPDES permitted facility.

11.8.2.5 Ash Classification

A waste assessment is conducted prior to receiving waste for treatment. The waste assessment is made using generator knowledge of the production process, the raw materials used to produce the material, and the chemical composition of the materials. If the assessment identifies that, at the point of generation, the waste meets any of the following three criteria, all ash from the initial treatment is collected, and the ash is sampled and analyzed using the protocol described in Attachment 1.

1. It could potentially contain 40 CFR 261.31 listed constituents.
2. It could potentially contain toxicity characteristic constituents above the 40 CFR 261.24 regulatory level.
3. It could potentially contain underlying hazardous constituents above the 40 CFR 268.48 treatment standards.

Based on the analytical results, the ash is managed using the logic in Attachment 1 Figure 3-2. All ash classified as hazardous based on the above criteria is managed in accordance with the requirements of R315-5 of the UAC.

11.9 RECEIVING HAZARDOUS WASTE FROM OFF-SITE

ATK periodically receives reactive hazardous waste from off-site sources. All hazardous waste received from an off-site source will be managed at one of the

permitted storage units. All off-site generated hazardous waste will be reviewed and approved prior to being accepted using the following criteria:

- EPA hazardous waste number(s);
- Physical description;
- Chemical description;
- Source of the waste;
- Sampling frequency;
- Parameter for analysis;
- Handling code;
- Tracking system number;
- DOT shipping description; and
- Safe handling instructions

Upon receipt, all off-site generated hazardous waste will be visually inspected to ensure that it meets the acceptance criteria, the manifest is correct, and the containers are labeled, closed, in good condition and compatible with the waste. All deficiencies will be resolved with the generator before the waste is received. After the waste has been accepted, it will be managed using the tracking systems described in Sections 11.6.

11.10 ENVIRONMENTAL PERFORMANCE STANDARDS

40 CFR 264.600 contains requirements for treatment, storage and disposal facilities to meet environmental performance standards to ensure operations are conducted in a manner that ensures protection of human health and the environment. The follow areas of concern have been or are in the process of being addressed to ensure compliance with the performance standard requirements.

Prevention of Releases Due to Migration of Waste Constituents in the Ground Water or the Subsurface Environment - this standard requires actions to prevent releases that may have adverse effects on human health or the environment due to migration of waste constituents in the ground water or subsurface environment. Topics that must be considered are:

- The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;
- The hydrologic and geologic characteristics of the unit and the surrounding area;
- The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water;
- The quantity and direction of ground-water flow;
- The proximity to and withdrawal rates of current and potential ground-water users;
- The patterns of land use in the region;
- The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation;
- The potential for health risks caused by human exposure to waste constituents; and
- The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

Prevention of Releases Due to Migration of Waste Constituents in Surface Water, Wetlands or on the Soil Surface -This standard requires actions to prevent releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface. Topics that must be considered are:

- The volume and physical and chemical characteristics of the waste in the unit;
- The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration;
- The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;
- The patterns of precipitation in the region;
- The quantity, quality, and direction of ground-water flow;
- The proximity of the unit to surface waters;
- The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;
- The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils;
- The patterns of land use in the region;
- The potential for health risks caused by human exposure to waste constituents; and
- The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

Prevention of Releases Due to Migration of Waste Constituents in the Air - this standard requires actions to prevent releases that may have adverse effects on human health or the environment due to migration of waste constituents in the air. Topics that must be considered are:

- The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates;
- The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;
- The operating characteristics of the unit;
- The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;
- The existing quality of the air, including other sources of contamination and their cumulative impact on the air;
- The potential for health risks caused by human exposure to waste constituents; and
- The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

11.10.1 Compliance With Environmental Performance Standard Requirements

All of these factors have been and will continue to be evaluated until closure of the facility to ensure waste treatment methods are conservative and will not adversely affect

human health or the environment. Control measures include, but are not limited to the following:

Human Health Risk Assessment - a Human Health Risk Assessment (HHRA) has been is being conducted to evaluate the risk to the public from open burning and open detonation operations at the facility. Tasks associated with the HHRA included developing an air dispersion model, evaluating sources, source parameters, and waste materials, and characterizing emissions. The HHRA will addresses the following environmental performance related concerns:

- The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates;
- The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;
- The operating characteristics of the unit;
- The atmospheric, meterologic, and topographic characteristics of the unit and the surrounding area; and
- The potential for health risks caused by human exposure to waste constituents.

The methods used in the HHRA are based on United States Environmental Protection Agency (U.S. EPA) risk assessment guidance documents, and to the extent possible, the dispersion modeling methodology within the Human Health Risk Assessment Protocol (HHRAP) for Hazardous Waste Combustion Facilities (U.S. EPA, September 2005). The completed HHRA Protocol and Report will has been reviewed and approved by the Utah Division of Waste Management Solid and Radiation ControlHazardous Waste. Limits on OBOD operations have beenwill be based on this assessment., as appropriate, once approval of the HHRA Report is given by the Director of the Utah Solid and Hazardous Waste Control Board.

Ecological Risk assessment – an Ecological Risk Assessment (ERA) will be conducted to determine potential risks to ecological receptors that may be affected by OBOD operations. It will evaluate the potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures. The completed ERA will be submitted to the Utah Division of Solid and Hazardous Waste for review. Limits on the OBOD operations will be based on this assessment, as appropriate, once approval of the ERA Report is given by the Director of the Utah Solid and Hazardous Waste Control Board.

Soil Monitoring Plan – a Soil Monitoring Plan (SMP) will be developed to verify the air dispersion and deposition models that were developed for the HHRA. The SMP will be used to evaluate the existing quality of surface waters and surface soils, and to determine what impact continued operations at the thermal treatment areas has on surface soil and surface water quality. Risks to human health and the environment will be evaluated using the data collected during implementation of the SMP.

Groundwater Monitoring Plan – a groundwater monitoring program has been in place at the facility since 1986 to monitor contaminants that were released from past disposal practices. The sampling methods, constituents of concern, sampling frequency, sampling results and analytical methods are closely reviewed and monitored by the DSHW.

The groundwater monitoring program addresses the following concerns:

- The hydrologic and geologic characteristics of the unit and the surrounding area
- The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater;
- The quantity and direction of groundwater flow; and
- The proximity to and withdrawal rates of current and potential groundwater users.

A Groundwater Monitoring Plan will be developed to evaluate the impact of thermal treatment operations on groundwater down gradient of the M-136 and M-225 Thermal Treatment Areas. The plan will identify analytes, sampling protocols and data quality objectives. In addition, the plan will propose a statistical method for determining if existing groundwater contamination concentrations increase due to ongoing thermal treatment operations.

Annual Review of Limits – the operating permit requires ATK to conduct an annual review of emission factors established by the HHRA, an annual report indicating changes to dose-response factors for the three classes of detected COPCs: chromium (total and hexavalent), 2,3,7,8-TCDD TE, and detected potentially carcinogenic PAHs (benzo(a)anthracene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene)~~the reference doses for selected health effects~~, and to review the potential health risk scenarios to assure that the scenarios have not changed. An annual accounting of the types and quantities of reactive waste treated is also required.

Stormwater Management – Stormwater run-on and run-off is controlled by a combination of soil grading and drainage ditches. The terrain around M-136 and M-225 has been graded and drainage ditches surround the areas in order to minimize stormwater run-on and run-off. The topography is shown in Attachment 6, Figures F-1 and I-1. Stormwater collection and drainage is shown in Attach 11 Figure 11-1 and Figure 11-2. The combination of controlling run-on and run-off, containing waste in water-tight burn trays, lack of precipitation, high evaporation rate and depth to groundwater prevents waste constituents from being released to the groundwater and or subsurface environment. Ongoing soil and groundwater monitoring are used to verify these controls are effective in preventing adverse effects to human health and the environment.

Actions to Prevent Releases to the Environment – all spills of hazardous materials are promptly cleaned up. Internal procedures require that chemicals be properly containerized, labeled, stored, used and disposed. The workplace is routinely audited to ensure compliance with procedures. When spills do occur, the released material is promptly cleaned up and R315 reporting requirements are followed.

Open Burning is Conducted in Steel Containers – Open burning is conducted in containers which minimizes the potential for waste constituents to migrate to the ground water, surface water or related environments. The Operating Permit requires routine inspections to ensure the containers are properly maintained. Containers requiring repair are removed from service until repairs are completed.

Ash Management – ash and residue from OBOD operations are promptly collected and disposed. Ash is managed and classified as described in sections 8.2.4, and 8.2.5 of this attachment.

Storage and Inspections – All PEP and residues from OBOD treatment are stored in accordance with Section 4 of this attachment and R315-5 Hazardous Waste Generator Requirements. Storage and treatment areas are inspected as required by Attachment 2, and operated in accordance with Attachment 9 of this permit.

Regulatory Oversight- the facility is subject to strict regulatory oversight by the Utah Division of Solid and Hazardous Waste. All aspects of hazardous waste management described in this Attachment are subject to their review. When necessary, deficiencies are identified and corrective action is taken by the permittee.