MODULE IV

STORAGE AND TREATMENT IN TANKS AND SURFACE IMPOUNDMENTS

IV.A. APPLICABILITY

IV.A.1. This module shall apply to all tank systems and surface impoundments that store or treat hazardous waste. Table IV-1 contains a list of all permitted tanks and surface impoundments, and their features.

IV.A.2. The Permittee may store or treat, by evaporation, hazardous waste in four evaporation tanks and one surface impoundment with a total volume capacity of 934,000 gallons. These include four rectangular 21,000-gallon tanks. The Surface Impoundment's capacity is 850,000 gallons.

IV.A.3. The Permittee may also store hazardous waste in the Decontamination Pad Settling Tank, described in Condition IV.A.4. subject to the requirements of Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan.*

IV.A.4. The Decontamination Pad Settling Tank has a total volume of 4,990 gallons.

IV.A.5. The Permittee may treat a maximum of 300 tons of hazardous waste per day in the tank systems located in the Mixed Waste Treatment Building. The Permittee may treat a maximum of 300 tons of hazardous waste per day in the tank located in the Mixed Waste Operations Building.

IV.A.5.a. The Permittee shall comply with the requirements of Attachment IV-1, *Tank Management Plan*; Attachment II-1-3, *Waste Stabilization Plan*; and Attachment II-1-7, *Spray Washing Plan.*

IV.A.6. The Permittee may also treat or store hazardous waste in the following tanks:

IV.A.6.a. Waste Receiver Tank, 9,750-gallon capacity, Mixed Waste Treatment Building. This tank receives waste emptied from containers (including dump trucks and roll-offs) prior to treatment;

IV.A.6.b. Liquid Waste Tanks, two 10,000-gallon capacity tanks, Mixed Waste Treatment Building. These tanks store liquid waste prior to treatment;

IV.A.6.c. Sizing Screen Tank, 900-gallon capacity, Mixed Waste Treatment Building;

IV.A.6.d. Primary Shredder Tank, 1,460-gallon capacity, Mixed Waste Treatment Building. This tank provides containment for the Primary shredder;

IV.A.6.e. Secondary/Tertiary Shredder Tank, 1,180-gallon capacity, Mixed Waste Treatment Building;

IV.A.6.f. Mixer Tank No. 1, capacity, 3,142-gallons, Mixed Waste Treatment Building. This tank system is used to mix wastes for stabilization and chemical treatment;

IV.A.6.g. Small-scale Mixer (portable);

IV.A.6.h. Gray Water Tank, located north of the Mixed Waste Operations Building. This tank collects wastewater from drains within the restricted area including the sink within the clean PPE room, the emergency shower, and the respirator cleaning area; and

IV.A.6.i. Thermal Desorption Tanks, three 650-gallon liquid storage tanks associated with the Thermal Desorption System, Mixed Waste Storage Building. These tanks are described in Condition 2.h. of Attachment II-1-12, *Thermal Desorption Separation Plan.*

IV.A.6.j. Thermal Desorption Dryer, 550 gallons, Mixed Waste Storage Building. This tank is described in Condition 2.l. of Attachment II-1-12, *Thermal Desorption Separation Plan.*

IV.B. PERMITTED AND PROHIBITED WASTE

IV.B.1. The Permittee shall store or treat waste according to the following conditions:

IV.B.1.a. The Permittee shall treat by evaporation only the waste codes in Condition III.B.1.a. of Module III, *Storage and Treatment in Containers*;

IV.B.1.b. The Permittee shall treat those hazardous wastes listed in Condition III.B.1.a. of Module III, *Storage and Treatment in Containers*, in order to meet applicable treatment standards of Utah Admin. Code R315-13-1;

IV.B.1.c. The Permittee shall be prohibited from storing or treating in the evaporation tank systems or Surface Impoundment hazardous wastes that are not identified in Condition III.B.1.a. of Module III, *Storage and Treatment in Containers.*

IV.B.1.d. The Permittee shall be prohibited from storing or treating in any tank system or Surface Impoundment the wastes listed in Conditions III.C.2. and III.C.3. of Module III, *Storage and Treatment in Containers.*

IV.C. SECONDARY CONTAINMENT

IV.C.1. The Permittee shall design, construct, operate, and maintain secondary containment systems for each tank or tank system in accordance with Attachment IV-1, *Tank Management Plan.*

IV.D. INSTALLATION REQUIREMENTS

IV.D.1. The Permittee shall perform tank and surface impoundment assessments on each new tank or surface impoundment prior to use at the facility. This assessment shall include an evaluation by an independent qualified Utah-registered professional engineer attesting that the tank or impoundment has sufficient structural integrity and is acceptable for treating hazardous waste.

IV.D.2. The Permittee shall ensure that proper tank handling procedures are followed in order to prevent damage to the tank system during installation. The Permittee shall have an independent, qualified, Utah-registered professional engineer or a qualified, independent, tank installation inspector, certify that the tank was installed according to proper tank handling and installation procedures. The individual performing the certification shall inspect the tank for structural damage that may have occurred during installation. The Permittee shall provide a copy of the certification to the Director along with the results of tank testing and the as-built drawings for the tank.

IV.D.3. The Permittee shall have the tank and its ancillary equipment tested for tightness by a Utah registered professional engineer, prior to being placed into use, to assure that the tank's integrity has been preserved.

IV.D.4. The Permittee shall keep written installation certifications on file in the Operating Record in accordance with Utah Admin. Code R315-8-10.

IV.E. OPERATING REQUIREMENTS

IV.E.1. Prior to initial or start up operation of mixing devices for stabilization, the Permittee shall perform an effectiveness test on the mixing device in accordance with Attachment IV-2, *Mixer Effectiveness Plan.* The results of the test shall be submitted to the Director for review and approval. Minimum mixing for treatment batches shall be based on the results of the mixer effectiveness test. The Permittee may modify the minimum mixing times for each mixer by performing a new effectiveness test and receiving Director approval in writing.

IV.E.2. The Permittee shall not place hazardous wastes or treatment reagents in any tank system or surface impoundment if it is known that the material could cause the tank, surface impoundment, its ancillary equipment, or a

containment system to rupture, leak, corrode, or otherwise fail in accordance with Utah Admin. Code R315-8-10.

IV.E.3. The Permittee shall prevent spills and overflows from the tank, surface impoundment, or containment systems in accordance with Attachment IV-1, *Tank Management Plan.*

IV.F. RESPONSE TO LEAKS OR SPILLS OR ACTION LEAKAGE RATE EXCEEDANCE

IV.F.1. In the event of a leak or spill from a tank system, surface impoundment, or from a secondary containment system, the Permittee shall comply with the requirements of Attachment II-6, *Contingency Plan.* If either of the above situations occur, or if a system becomes unfit for use, the Permittee shall, in addition to the contingency measures of Attachment II-6, *Contingency Plan*, remove the system from service immediately and complete the following actions in accordance with Utah Admin. Code R315-8-10:

IV.F.1.a. In the event of a leak, the Permittee shall employ the following measures:

IV.F.1.a.i. Stop the flow of hazardous waste into the tank system or surface impoundment and inspect it to determine the cause of the leak.

IV.F.1.a.ii. Remove waste and accumulated precipitation from the system within 24 hours of leak detection to prevent further leakage and allow for inspection and repair of the system. The Permittee may request an extension of the 24-hour limitation from the Director. Director approval may be granted orally, followed by written approval within 15 days.

IV.F.1.a.iii. Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely source of liquids, possible leak location, size and cause of any leaks, and short term actions taken and planned.

IV.F.1.a.iv. Manage the collected material as hazardous waste, unless the Permittee can demonstrate to the Director that it is not a hazardous waste.

IV.F.1.b. The Permittee shall immediately conduct a visual inspection of all releases to determine if the environment has been impacted. Based on this inspection, the Permittee shall perform the following actions:

IV.F.1.b.i. Prevent further migration of the leak to soils, surface water, or groundwater; and

IV.F.1.b.ii. Remove and properly dispose of all contamination to the soil, surface water, or groundwater.

IV.F.1.c. The Permittee shall close the tank system or surface impoundment in accordance with Attachment II-7, *Closure Plan*, unless repairs to the tank system or surface impoundment occur that provide secondary containment as necessary.

IV.F.2. Replaced components of a tank system or surface impoundment shall satisfy the requirements for new tank systems in accordance with Condition IV.D.

IV.F.3. All major repairs that are required to eliminate leaks or affect the integrity of the tank system or surface impoundment shall be certified by an independent, qualified, Utah-registered professional engineer prior to returning the tank system or surface impoundment into service. The Director shall determine if a repair is a major repair and thereby requires certification.

IV.F.4. In the event of a spill, the following measures, in addition to Attachment II-6, *Contingency Plan*, shall be employed:

IV.F.4.a. Spills that have not damaged the integrity of the tank system or surface impoundment shall be contained, and the spilled waste removed, before returning the tank system to service;

IV.F.4.b. The collected material shall be managed as a hazardous waste, unless the Permittee can demonstrate to the Director, that it is not a hazardous waste; and

IV.F.4.c. The Permittee shall immediately conduct a visual inspection of the spill to determine if the environment has been impacted. Based on the inspection, the Permittee shall perform the following actions:

IV.F.4.c.i. Prevent further migration of the spill to soils, surface water, or groundwater, and

IV.F.4.c.ii. Remove and properly dispose of all contamination to the soil, surface water, or groundwater.

IV.F.5. If the Surface Impoundment Action Leakage Rate is exceeded then the Permittee shall:

IV.F.5.a. Notify the Director in writing within 7 days of a determination, and

IV.F.5.b. Follow the requirements of Utah Admin. Code R315-8-11.10(b) and (c).

IV.G. INSPECTION SCHEDULES AND PROCEDURES

IV.G.1. The Permittee shall inspect the tank systems, in accordance with Attachment II-3, *Site Inspection Plan.*

IV.H. RECORDKEEPING AND REPORTING

IV.H.1. Leaks or spills from tanks, or surface impoundments, tank systems, or secondary containment systems to the environment shall be reported to the Director within 24 hours of discovery.

IV.H.2. A leak or spill of one pound or less of waste not identified as an acute hazardous waste, that is immediately contained and cleaned up, need not be reported.

IV.H.3. The Permittee shall implement Attachment II-6, *Contingency Plan* in the event of a leak or spill containing acute hazardous waste.

IV.H.4. Within 30 days of detecting a release to the environment from a tank system, surface impoundment, or secondary containment system, the Permittee shall report the following information to the Director:

IV.H.4.a. Likely route of migration of the release;

IV.H.4.b. Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);

IV.H.4.c. Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee shall provide the Director with a schedule of when the results will be available. This schedule shall be provided before the required 30-day submittal period expires;

IV.H.4.d. Proximity of down-gradient drinking water wells, surface water, and populated areas; and

IV.H.4.e. A description of response actions taken or planned.

IV.H.5. The Permittee shall submit to the Director all certifications, by a qualified Utah- registered professional engineer, of major repairs within seven days of returning the tank system or surface impoundment to use.

IV.H.6. The Permittee shall obtain, and keep on file in the Operating Record, the written statements by those persons required to certify the design and installation of the tank system.

IV.H.7. The Permittee shall keep on file in the Operating Record, the written tank or surface impoundment assessment.

IV.H.8. The Permittee shall maintain in the Operating Record, a record of the results of integrity tests conducted on permitted tanks, in accordance with Condition 4.n. of Attachment II-3, *Site Inspection Plan.* These records shall be kept for a minimum of three years.

IV.I. CLOSURE AND POST-CLOSURE CARE

IV.I.1. At closure of the tank system or surface impoundment, the Permittee shall follow the procedures in Attachment II-7, *Closure Plan.*

IV.I.2. If the Permittee cannot demonstrate that all contaminated soils have been removed or remediated, in accordance with Attachment II-7, *Closure Plan*, then the Permittee shall close the areas of contamination as landfills and perform post-closure care following the requirements of Utah Admin. Code R315-8-7.

IV.J. SPECIAL TANK AND SURFACE IMPOUNDMENT PROVISIONS FOR IGNITABLE OR REACTIVE WASTES

IV.J.1. The Permittee shall not place ignitable or reactive waste in the evaporation tank systems or surface impoundments. Ignitable or reactive waste may be treated in the Mixed Waste Treatment Facility tanks in accordance with the provisions of this Permit.

IV.J.2. The Permittee shall not place ignitable or reactive waste in the MW Liquid Storage Tanks.

IV.K. SPECIAL TANK AND SURFACE IMPOUNDMENT PROVISIONS FOR INCOMPATIBLE WASTES

IV.K.1. The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same tank system, or surface impoundments, or the same secondary containment system.

IV.K.2. The Permittee shall follow the procedures for tank decontamination outlined in Attachment II-1-3, *Waste Stabilization Plan*, and Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan.*

TABLE IV-1
TANK FEATURES

General Classification	Tank Number	Tank Capacity (Gallons)	Tank Dimensions (Nominal)
Evaporation Tank 1 (East) Southwest of MWLC	Tank 0125	21,000	35'L x 8'W x 10'H
Evaporation Tank 2 (West) Southwest of MWLC	Tank 0150	21,000	35'L x 8'W x 10'H
Evaporation Tank 3 (East) Near Mixed Waste Treatment Building	Tank 0175	21,000	35'L x 8'W x 10'H
Evaporation Tank 4 (West) Near Mixed Waste Treatment Building	Tank 0200	21,000	35'L x 8'W x 10'H
Surface Impoundment	SI 1301	850,000	110'L x 325'W x 10'H
Decontamination Pad Settling Tank	Tank 0275	4,990	24'6L x 7'W x 4'10H
Gray Water Tank	Tank 0300	1,000	54"D x 11'H
Waste Receiver Tank	Tank 1	9,750	30'x15'x3'
Sizing Screen Tank	Tank 4	900	13' x 10' x 2'
Secondary/Tertiary Shredder Tank	Tank 5	1,180	13' x 13' x 2'
Primary Shredder Tank	Tank 6	1,460	13' x 16' x 2'
Mixer Tank No. 1	Tank 8	3,142	14' x 25' with a 15.5'access ramp that tapers from 14' to 10'
Small-Scale Mixer (Portable)	Tank 10		
Liquid Waste Storage Tanks (2 identical design)	Tank 12 and Tank 13	10,000 each (total 20,000)	11'6D x 14'6H
Thermal Desorption Tanks (3)	Tank 2, Tank 3a, and Tank 3b	650 each (1,950 total)	53"D x 83"H
Thermal Desorption Dryer	Tank 17	550	6'D x 10'L

END OF MODULE IV