MODULE 4
STORAGE AND TREATMENT IN TANK SYSTEMS

4.A. APPLICABILITY

4.A.1. The requirements of this module pertain to the storage and treatment of hazardous waste in tank systems. The Permittee shall comply with all requirements established in this permit when storing or treating any wastes or other materials in the tank systems, including those which do not carry an EPA waste code (e.g., industrial waste, exempt hazardous waste, site generated waste, non-hazardous waste, etc.).

4.A.2. The Permittee may store wastes, as outlined in this module, in the tank systems specified below. Storage of wastes in any other tanks or tank systems is prohibited.

a. Blend Liquids Tanks, designated as T-301, T-302, T-303, T-304, T-305, T-306, T-309, T-310, T-321, T-322, T-323, and T-324.

b. Aqueous Liquids Tanks, designated as T-307, T-308, T-311, and T-312.

c. Small Sludge Tank, designated as T-406.

d. Large Sludge Tank, designated as T-401.

e. Small Bulk Solids Tanks, designated as T-403, T-404B-East and T-404B-West.

f. Large Bulk Solids Tank, designated as T-404A.

4.A.3. The Permittee may treat wastes in the tanks or tank systems listed below. The Permittee may treat these wastes with blending and mixing as described in Attachment 8. The Permittee may also allow shredding into tank T-404B-West as described in Attachment 8. Any other treatment of waste in tanks or tank systems is prohibited.

a. Blend Liquids Tanks, designated as T-301, T-302, T-303, T-304, T-305, T-306, T-309, T-310, T-321, T-322, T-323, and T-324.

b. Aqueous Liquids Tanks, designated as T-307, T-308, T-311, and T-312.

c. Small Sludge Tank, designated as T-406.

d. Large Sludge Tank, designated as T-401.

e. Small Bulk Solids Tanks, designated as T-403, T-404B-East and T-404B-West.

f. Large Bulk Solids Tank, designated as T-404A.

4.B. OPERATION AND MAINTENANCE

4.B.1. The Permittee shall maintain and operate the tank systems in accordance with the drawings contained in Attachment 10.

4.B.2. The Permittee shall modify the drawings for the tank systems in accordance with the permit modification requirements in Condition 1.D.

4.B.3. The Permittee shall not proceed with construction or installation of a new or modified tank system without the approval of the Director of the Division of Waste Management and Radiation Control (Director) unless construction is allowed as outlined in Condition 1.D. For any construction or installation of a new or modified tank system, the Permittee shall provide a written assessment, reviewed and certified by an independent, qualified Utah registered professional engineer, that attests to the structural integrity and the suitability of the new or modified tank system for handling the specified hazardous waste in accordance with Utah Admin. Code R315-264-192.

4.B.4. The Permittee shall equip all process monitors, required pursuant to Condition 4.E., with alarms operated to warn of deviation or imminent deviation from the limits specified in Condition 4.D.

4.B.5. The Permittee shall maintain the tank systems and ancillary equipment in good repair. The Permittee shall perform routine maintenance at sufficient frequency to ensure that the tank systems and ancillary equipment remain in good repair. The Permittee shall correct malfunctions and deterioration as expeditiously as possible.

4.B.6. The Permittee shall design, construct, maintain, and operate the tank systems to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden discharge of hazardous waste or hazardous waste constituents to the air, soil, groundwater, surface water or any other location which could threaten human health or the environment.

4.B.7. The Permittee shall comply with the provisions specified in the Fume Management Plan, Attachment 14.

4.B.8. The Permittee shall comply with the provisions specified in Attachment 8 -- Waste Storage, Processing, and Tracking.

4.C. PERMITTED AND PROHIBITED WASTES

4.C.1. The Permittee may store and/or treat the wastes identified in Condition 2.C.1. in any of the tanks or tank systems unless prohibited in Conditions 4.C.2. through 4.C.6. subject to the requirements of this permit.

4.C.2. The Permittee shall not store or treat the following in any of the tanks or tank systems at any time:

a. Any waste or material identified in Condition 2.C.2.
b. Wastes with the codes F020, F021, F022, F023, F026, F027, and F028.
c. Infectious wastes.
d. Oxidizers as described in UAC R315-261-21(a)(4).
e. Self-heating materials (defined as DOT Division 4.2(2)).

4.C.3. The Permittee shall not store or treat the following in any of the tanks or tank systems identified in Conditions 4.A.2.c. and 4.A.2.d. (small sludge tank, and large sludge tank) at any time:

a. Wastes or materials with a flash point less than or equal to 140°F.

4.C.4. The Permittee shall not store or treat the following in any of the tanks or tank systems identified in Conditions 4.A.2.e. and 4.A.2.f. (small bulk solids tanks, and large bulk solids tank) at any time:

a. Wastes or materials with a flash point less than or equal to 140°F.
b. Wastes or materials which have greater than 25% of the lower explosive limit (LEL) of any flammable component.
c. Wastes or materials which have a temperature greater than 140°F.
d. Wastes or materials which exhibit the characteristic defined in R315-261-21.

4.C.5. The Permittee may use blend liquids tank T-305 for fuel service at the discretion of the Permittee. The tank has one set of piping for waste activities and a second set for fuel activities. Currently, tank T-305 is configured for fuel service. When the tank is used for fuel service, prior to such use, the Permittee must triple rinse the tank and associated piping with an appropriate solvent to decontaminate the system from hazardous waste and PCBs. The Permittee shall maintain decontamination documentation, including PCB wipe test results as required, in the facility operating record. The Permittee shall also continue to comply with all other permit requirements (inspections, financial assurance, etc.) when tank T-305 is in fuel service, unless the Permittee closes the tank and removes it from permit.

4.C.6. The Permittee shall not place wastes or materials with a pH of less than 2.0 into any of the tanks or tank systems identified in Conditions 4.A.2.a. (blend liquids tanks) and 4.A.2.b. (aqueous liquids tanks) at any time.

4.D. OPERATING REQUIREMENTS

4.D.1. The Permittee shall nitrogen blanket all tanks identified in Conditions 4.A.2.a. (blend liquids tanks), 4.A.2.b. (aqueous liquids tanks), and 4.A.2.d. (large sludge tank).

4.D.2. The Permittee shall equip all tanks identified in Conditions 4.A.2.a. (blend liquids tanks), 4.A.2.b. (aqueous liquids tanks), and 4.A.2.d. (large sludge tank) with emergency pressure relief valves that vent to the atmosphere.

4.D.3. The Permittee shall equip all tanks identified in Conditions 4.A.2.a. (blend liquids tanks) and 4.A.2.b. (aqueous liquids tanks) with an anti-static inlet.

4.D.4. The Permittee shall empty, visually inspect for the general condition of each tank, and measure the corrosion of each tank identified in Conditions 4.A.2.a. and 4.A.2.b. (blend liquids tanks and aqueous liquids tanks) at least once every five years and certify that it can safely store hazardous waste. At least once every four years, the Permittee shall empty, visually inspect, and measure the corrosion in each tank identified in Conditions 4.A.2.c. through 4.A.2.f. (small sludge tank, large sludge tank, small bulk solids tanks, and large bulk solids tank), and certify that each tank can safely manage hazardous waste. The Permittee shall have these inspections and tests certified by an independent, qualified Utah registered professional engineer.

4.D.5. The Permittee shall maintain the level of each tank identified in Conditions 4.A.2.a. through 4.A.2.d. (blend liquids tanks, aqueous liquids tanks, small sludge tank, and large sludge tank) at or below the compliance limit specified in Attachment 9.

4.D.6. The Permittee shall maintain the level of waste in each tank identified in Conditions 4.A.2.e. (small bulk solids tanks) and 4.A.2.f. (large bulk solids tank) at or below the dividers between tanks T-404A, T-404B-East and T-404B-West.

4.D.7. The Permittee shall equip all tanks identified in Conditions 4.A.2.a. through 4.A.2.d. (blend liquids tanks, aqueous liquids tanks, small sludge tank, and large sludge tank) with high level alarms positioned as specified in Attachment 9.

4.D.8. The Permittee shall equip all tanks identified in Conditions 4.A.2.a. (blend liquids tanks), 4.A.2.b. (aqueous liquids tanks), and 4.A.2.d. (large sludge tank) with a waste cutoff activated as specified in Attachment 9.

4.D.9. The Permittee may place wastes or other material in a tank or tank system only if it is compatible with the wastes already stored in the tank, and compatible with the tank or tank system construction material.

4.D.10. The Permittee shall not place hazardous wastes, treatment reagents, or other materials in any of the tank systems if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.

4.D.11. The Permittee shall protect ignitable wastes stored in any of the tanks identified in Conditions 4.A.2.a. (blend liquids tanks) and 4.A.2.b. (aqueous liquids tanks) from sources of ignition.

4.D.12. The Permittee shall not store or mix reactive waste in any of the tank systems identified in Conditions 4.A.2.a. through 4.A.2.f. (blend liquids tanks, aqueous liquids tanks, small sludge tank, large sludge tank, small bulk solids tanks, and large bulk solids tank).

4.D.13. The Permittee shall not place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible material. The Permittee shall consider decontamination solutions generated from cleaning tank systems a hazardous waste and shall manage it appropriately.

4.D.14. The Permittee shall prevent spills and overflows from the tank or containment system.

4.D.15. The Permittee shall equip all pumps that are not within a secondary containment area with drip pans to collect any spillage that may occur.

4.D.16. The Permittee shall operate and maintain the secondary containment system so that they shall be free of both cracks and gaps and are sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.

4.D.17. If a sump, drip pan, or secondary containment area contains any material, the Permittee shall empty it within 24 hours of discovering the contents. This means the Permittee shall remove all material, liquid or solid, or both. If ongoing precipitation prevents the emptying of all material from a sump or secondary containment system located outside of a building, the Permittee shall empty the sump or secondary containment system within 24 hours of the end of the precipitation event. However, the Permittee must remove sufficient material

during the event to maintain sufficient secondary containment capacity of the system. The Permittee may remove solid material which accumulates in sumps inside buildings from the routine processing of containers (e.g., dried mud falling off of pallets, small pieces of wood from pallets, dust, etc. (but not spill material)) weekly.

The Permittee shall manage any material removed as a hazardous waste except for liquid collected in sumps SP-614A, B, C, and D and their associated bermed areas which is returned to the incineration exhaust gas neutralization system for use in the neutralization process.

4.D.18. The Permittee shall provide containment for 25% of the entire volume of waste held within the containment area or 100% of the volume of the largest tank in the containment area, whichever is greater, for each tank area.

4.D.19. The Permittee shall prohibit smoking within 50 feet of any of the tank systems. The Permittee shall take precautions to prevent accidental ignition or reaction of waste. The Permittee shall separate and protect the waste from sources of ignition or reaction including, but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g. from heat-producing chemical reactions), and radiant heat. The Permittee may allow such sources of ignition only after adequate additional precautions have been taken to prevent ignition of wastes or other materials, and the Permittee has issued a hot work permit.

4.D.20. If bulk waste is unloaded directly to one of the permitted tanks identified in Condition 4.A.2., rather than being accepted into storage in one of the bulk container storage areas, the Permittee shall unload the waste to a tank within 15 days of being received at the facility. In the event the Permittee cannot unload a bulk container within the 15 days, the Permittee may request oral approval from the Director to extend the timeframe on a temporary basis. This approval shall be followed by written notification to the Director within seven days of the oral approval.

4.D.21. The Permittee shall maintain the concentration of oxygen in the hydrocarbon vent system below 5%. If the oxygen concentration exceeds 5%, the control system shall generate an alarm, and the Permittee shall immediately take corrective action to reduce the oxygen concentration to below 5%. The Permittee shall note the cause of the elevated oxygen concentration and the corrective actions taken in the operating record.

4.D.22. The mixed contents of any tank or tank system identified in Conditions 4.A.2.a. (blend liquids tanks) and 4.A.2.b. (aqueous liquids tanks) shall not exhibit a pH of less than 4.5 or greater than 12.5 except when allowed under Condition 4.D.23.

When a waste or material having a pH greater than 12.5 or less than 4.5 is added to a tank or tank system identified in Conditions 4.A.2.a. (blend liquids tanks) and 4.A.2.b. (aqueous liquids tanks), the Permittee shall measure and record in the operating record, the pH of the tank contents following the addition. This measurement of pH shall occur within 24 hours following the addition of a batch of waste to a tank, with a batch defined as all of the waste added to the tank in a 24-hour period following and including the initial addition of waste with a pH less than 4.5 or greater than 12.5.

4.D.23. If the pH of a tank's mixed contents, as measured in Condition 4.D.22., is less than 4.5 or greater than 12.5, the Permittee shall take the necessary appropriate action to bring the pH of the tank contents to within 4.5 and 12.5 or feed the contents to the incinerator. The Permittee shall adjust the pH of the contents of the tank or feed the waste to the incinerator within four days of the pH measurement in 4.D.22. that triggered the response. If, due to unique or unanticipated circumstances, the Permittee is unable to make the necessary pH adjustment or feed the waste to the incinerator within four days, the Permittee may request oral approval from the Director to extend the timeframe on a temporary basis. This approval shall be followed by written notification to the Director within seven days of the oral approval.

4.D.24. The Permittee shall prevent the contents of any tank or tank system identified in Conditions 4.A.2.a. (blend liquids tanks) and 4.A.2.b. (aqueous liquids tanks) from being at a temperature greater than 125°F at any time. On a daily basis, the Permittee shall measure the temperature of the contents in the liquids tanks and record them in the operating record.

4.D.25. The Permittee may operate Tanks T-305, T-306, T-311, and T-312 without the internal coating in place. If the internal coating is removed, the Permittee shall remove it using acceptable industrial practices as the tanks are taken out-of-service, drained, and cleaned for a scheduled inspection.

4.D.26. When feeding waste to the incinerator from any of the tanks identified in Conditions 4.A.2.e. (small bulk solids tanks) and 4.A.2.f. (large bulk solids tank), and the waste feed includes material having an LEL greater than 10%, the Permittee shall operate the nitrogen purge system located in the front wall feed chute as described in Attachment 14. The Permittee shall not feed bulk solids materials with an LEL greater than 10% unless the nitrogen purge system is operating properly.

4.D.27. The Permittee may bulk-up (pour the contents of a container or place the entire container and contents into a bulk solids tank) containers holding isocyanate wastes into the tanks identified in Conditions 4.A.2.e. (small bulk solids tanks) and 4.A.2.f. (large bulk solids tank) in accordance with Attachment 8, provided

the contents of the containers meet all other permit requirements for waste acceptability and compatibility. When bulking-up isocyanate wastes, the Permittee shall add the wastes slowly to a bulk solids tank and mix the contents of the tank to facilitate reaction of the isocyanates.

4.E. MONITORING, RECORD KEEPING, AND CALIBRATION REQUIREMENTS

4.E.1. The Permittee shall maintain and operate the monitoring and recording equipment specified in Attachment 16 while storing and/or treating hazardous waste in the tank systems. The Permittee shall monitor and record the data in accordance with Attachment 16. The Permittee shall provide accurate data using the monitoring equipment specified in Attachment 16. If the level transmitter for a tank fails to operate correctly, the Permittee shall immediately lock out the inlet of the tank so that no additional waste can be added to the tank until the instrument is repaired. If material is removed from the tank during this time, the Permittee shall manually measure the volume and record the data in the operating record.

4.E.2. The Permittee shall ensure that the plant control system generates an alarm whenever the nitrogen pressure in a tank falls below 1" W.C. or rises above 7" W.C.

4.E.3. The Permittee shall ensure that the plant control system generates an alarm whenever fumes from the fume management system are no longer being vented to the afterburner (i.e., whenever K-104 stops, HV1301 closes, or both).

4.E.4. The Permittee shall record alarms generated by the plant control system and make these records available for the Director to review.

4.E.5. The Permittee shall calibrate the monitoring instruments in accordance with Attachment 13.

4.E.6. The Permittee shall provide and maintain access to the systems for the Director to connect to and remotely access the following data:

a. The Permittee shall maintain a record of the location of each bulk waste in permitted locations at the facility. The Permittee shall maintain a history of the movement of each waste from the time it is placed into one of the permitted waste management areas until it is either incinerated or manifested off site. The Permittee shall comply with the waste tracking provisions in Attachment 8. The Permittee shall provide access to the electronic waste tracking system portion of the operating record for the Director to review by providing a remote link to the computer system and the appropriate query system for accessing the required data. The Permittee shall provide access to

data including manifest information, profile information, processing waste class code, final code dates for wastes that have been accepted or rejected, load sample analyses, weights, current locations, movement histories, and the dates and times wastes are incinerated or transferred off site. The Permittee shall provide queries to access the information for individual bulk waste tracking numbers, manifests, EPA ID numbers, lot numbers, and profiles. The Permittee shall also provide the information for bulk waste tracking numbers based on location at the facility, status (rejects, infectious wastes, etc.), and characteristics (ignitables, cyanides, sulfides, oxidizers, corrosives, reactives, etc.).

b. The Permittee shall provide access to the data archiving system (Wonderware) for the Director to review by providing a remote link to the computer system and the appropriate query system for accessing the required data. The Permittee shall provide access to data including the data required to be maintained in Attachment 16.

4.E.7. The Permittee shall track all wastes or materials placed into the tanks in accordance with the waste tracking provisions of Attachment 8. The Permittee shall provide access to the electronic waste tracking system portion of the operating record for the Director to review by providing a remote link to the computer system and the appropriate query system for accessing the required data. The Permittee shall provide access to data including manifest information, load sample analyses, weights, current locations, movement histories, and the dates and times wastes are incinerated or transferred off site.

4.E.8. The Permittee shall maintain a record of the results of integrity tests and other inspections required in Condition 4.D at the facility.

4.E.9. The Permittee shall maintain all written assessments and certifications relating to the design and installation of the tank systems that attest to the structural integrity and the suitability of the new, modified, or repaired tank system for handling the specified hazardous waste at the facility. The Permittee shall maintain these records until such time that the tank system is certified closed in accordance with Attachment 7.

4.E.10. The Permittee shall maintain records of releases from a tank system that are contained within a secondary containment system in the operating record. These records shall include information on the cause of the release, the volume and type of material released, any injuries or damage caused by the release, and corrective actions taken.

4.E.11. The Permittee shall notify the Director in writing within seven days after switching tank T-305 from fuel service to waste or from waste to fuel service.

This notice, a self-implementing class 1 permit modification, shall include drawing updates and other necessary changes to the permit.

4.F. RESPONSE TO LEAKS OR SPILLS

4.F.1. In the event of a leak or a spill from a tank system or if the tank system becomes unfit for continued use, the Permittee shall remove the system from service immediately and complete the following actions:

a. Stop the flow of hazardous waste into the tank system and inspect the system to determine the cause of the release.

b. Remove waste and accumulated precipitation from the tank system and containment system within 24 hours of detection of the leak or spill to prevent further release and allow inspection and repair of the system. If the Permittee finds that it will be impossible to meet this time period, the Permittee shall orally notify the Director and demonstrate that a longer time period is required.

c. Manage the collected material as a hazardous waste in accordance with all applicable requirements.

d. The Permittee shall make any necessary repairs to fully restore the integrity of the tank system before returning the system to service.

e. For all major repairs to eliminate leaks or restore the integrity of the tank system, the Permittee shall obtain a certification by an independent, qualified Utah registered professional engineer that the repaired system is capable of handling hazardous wastes without release for the intended life of the system before returning the system to service. Examples of major repairs are installation of an internal liner, repair of a ruptured tank, or repair or replacement of a secondary containment vault.

4.F.2. In the event that a leak or spill from a tank system escapes the secondary containment system, the Permittee shall complete the following actions in addition to those specified in Condition 4.F.1.:

a. The Permittee shall immediately conduct a visual inspection of all releases to the environment and based on that inspection shall (1) prevent further migration of the leak or spill to soils or the surface water and (2) remove and properly dispose of all contamination of the soil or surface water.

4.F.3. If the Permittee replaces a component of a tank system to eliminate a leak, that component must satisfy the requirements for new tank systems or components in Utah Admin. Code R315-264-190 through 200.

4.F.4. If a tank system cannot be repaired or is otherwise unfit for continued use, the Permittee shall close that tank system in accordance with the Closure Plan in Attachment 7.