ATTACHMENT II-1-6

LEACHATE, EVAPORATION, AND DECONTAMINATION WASTE MANAGEMENT PLAN

1. APPLICABILITY

The requirements of this Attachment apply to the management of the Evaporation Tanks, leachate, the Surface Impoundment, and wastes from decontamination activities.

2. IDENTIFICATION AND OPERATION OF TANK SYSTEMS

These requirements describe the feed system and safety cut-off system for the Evaporation Tanks identified in Module IV, *Storage and Treatment in Tanks*.

a. Specifications for Evaporation Tanks and the Surface Impoundment are listed in Table IV-1 of Module IV, *Groundwater Monitoring*. Evaporation Tanks and the Surface Impoundment shall be open to the atmosphere and may have ancillary piping used for transfers and sparging.

i. Wastes shall be transferred into the Evaporation Tanks and the Surface Impoundment in accordance with the procedure below. This procedure shall describe the feed system and safety cut-off system that shall be used for transferring liquids to the Evaporation Tanks and the Surface Impoundment when using a pumping device.

A. Two people shall be present for liquid transfers if the lines are not secure. If the transfer lines are secure, one person may perform the transfer.

B. Prior to a transfer, the operator shall determine that the volume to transfer does not exceed the available volume in the Evaporation Tanks or the Surface Impoundment up to the freeboard limit.

C. Hose and piping shall be inspected before use to ensure general integrity. Connections shall be made to prevent leaks, e.g., using gaskets or fittings.

D. During a transfer, the operator shall ensure that the following items, when they are a part of the transfer operation, are controlled or observed to prevent a spill, leak or release:

(1) the influent stream,

(2) the effluent stream,

(3) the hose or transfer piping,

(4) the pumping device,

(5) the liquid level in the tank, and

(6) signals from the electronic level indicators.

E. If the visual tank alarm activates during the transfer, the operator shall stop the transfer unless approval has been granted by the responsible manager to proceed to the level at which the audio alarm is activated.

F. Transfer into an Evaporation Tank or the Surface Impoundment shall be performed from within the secondarily-contained area adjacent to the Evaporation Tank or Surface Impoundment.

G. Following the liquid transfer, the operator shall ensure liquids remaining in hoses, pipes, and equipment are drained and the operation completed in a manner to prevent a spill, leak or release.

ii. Liquid waste may be transferred directly into an Evaporation Tank or the Surface Impoundment from a container.

iii. The Evaporation Tanks shall be coated on the interior with an appropriate protective coating that is resistant to corrosion. The Evaporation Tanks' exterior shall be painted to protect from corrosion.

iv. The treatment process used in the Evaporation Tanks and the Surface Impoundment shall be evaporation. The evaporation process may be aided by air sparging or by spray evaporation. These systems shall not be used when wind conditions may cause the liquid waste to fall outside the tank.

b. Decontamination Pad Settling Tank. The Decontamination Pad Settling Tank is described in Module IV, *Storage and Treatment in Tanks*. The Decontamination Pad Settling Tank receives wastes by gravity flow from the indoor sump and outdoor decontamination pads located on the west end of the Mixed Waste Storage Building.

i. Liquids identified in Condition 4.a. may be pumped to or from the Decontamination Pad Settling Tank.

ii. When permanent piping for pumping to or from the Decontamination Pad Settling Tank is changed or installed, prior to use, the installation shall be evaluated by an independent Utah-registered professional engineer. Documentation of such evaluations shall be maintained in the Operating Record for a period of three years.

iii. The Decontamination Pad Settling Tank is constructed of carbon steel and shall be coated on the interior and exterior with a corrosion-protective coating. The Decontamination Pad Settling Tank shall be secondarily contained in the concrete vault west of the Mixed Waste Storage Building. The interior of the concrete vault shall be maintained with a protective coating that is resistant to corrosion.

iv. The Permittee may make routine repairs to the Decontamination Pad without notification to the Director as long as the design or operation is not changed.

v. Decontamination Pad Sumps shall be inspected in accordance with Attachment II-3, *Site Inspection Plan.*

c. Gray Water Tank. The Gray Water Tank is described in Module IV, *Storage and Treatment in Tanks*. The Gray Water Tank receives wastes by gravity flow from drains within the Mixed Waste Operations Building.

i. Water from the Gray Water Tank shall be transferred into the Evaporation Tanks or the Surface Impoundment.

ii. The Gray Water Tank shall be a double-walled tank and shall be equipped with a high-level alarm. The alarm shall be visual with strobe lights located in the Mixed Waste Operations Building and outside at the tank.

3. PROVISIONS FOR ANNUAL TANK INTEGRITY TESTING

Waste in the Evaporation Tanks, the Gray Water Tank, or the Decontamination Pad Settling Tank may be transferred to tanks or containers and managed in accordance with the provisions of Utah Admin. Code R315-5-3 for a period of up to 15 days for purposes of performing the annual tank integrity test or for purposes of sludge removal. Additional transfer time may be obtained upon prior written approval by the Director.

4. WASTE SOURCES

a. Only compatible liquids from the following sources shall be placed in the Evaporation Tanks or Surface Impoundment at the Facility:

i. washdown water from decontamination areas,

ii. leachate,

iii. aqueous liquid waste from the on-site laboratory,

iv. purge water from groundwater monitoring,

v. liquids from decontamination and washdown operations in the treatment facility,

vi. precipitation and precipitation run-off,

vii. washdown water from the container storage area,

viii. liquid wastes from the Decontamination Pad Settling Tank,

ix. liquid collected from spills,

x. liquid from the Gray Water Tank,

xi. liquid waste generated from treatment operations, and

xii. other aqueous liquid waste generated by the Permittee.

b. Decontamination Pad Settling Tank. Waters for decontamination purposes are placed in the Decontamination Pad Settling Tank. Materials from the decontamination operations are collected in this tank. Only wastes and materials from the following sources shall be placed in the Decontamination Pad Settling Tank:

i. produced-well waters or commercially-obtained waters,

ii. washdown water and wastes from decontamination activities,

iii. precipitation and precipitation run-off,

iv. washdown water from the Container Storage Area,

v. liquid from the Evaporation Tanks, and

vi. purge water from groundwater monitoring.

c. Leachate from the Mixed Waste Landfill Cell. Leachate removed from the leachate pipes may be managed in the following units:

i. Evaporation Tanks,

ii. the Surface Impoundment,

iv. tanks or containers managed in accordance with the provisions of Utah Admin. Code R315-5-3, or

v. used as dust suppression on the Mixed Waste Landfill Cell in accordance with Condition 10.

d. Ponded Leachate. Ponded leachate from within the Mixed Waste Landfill Cell may be collected from the cell and managed as leachate.

5. SLUDGE MANAGEMENT

a. Sludge inspections shall be conducted in accordance with Attachment II-3, *Site Inspection Plan.*

b. The sludge from all evaporation tanks shall be removed annually or prior to the accumulation of a depth of eight inches unless additional time is approved in writing by the Director.

6. EVAPORATION TANK SLUDGE REMOVAL AND MANAGEMENT

a. When an operator is inside of an Evaporation Tank during sludge removal operations, at least one other worker shall remain outside of the Evaporation Tank to provide immediate assistance if needed.

b. Removed sludge may be managed in secondary containment as a two-phase material until treatment occurs.

c. Sludge removed from the Evaporation Tanks shall carry the applicable EPA hazardous waste code F039 if derived from leachate, and shall meet all applicable treatment standards prior to disposal unless the sludge is from a tank that has only received non-leachate liquid waste.

7. PROFILE REQUIREMENTS

a. The Permittee shall maintain a current waste profile record on the contents, both liquid and sludge, of the waste in the Evaporation Tanks and the Surface Impoundment. The waste profile records shall be updated annually.

8. FREEBOARD REQUIREMENTS

a. The Permittee shall maintain a minimum of one foot of freeboard in each Evaporation Tank and a minimum of six inches of freeboard in the Decontamination Pad Settling Tank.

b. The Permittee shall maintain an operating minimum of three feet of freeboard in the Surface Impoundment. An additional one foot of liquid shall be allowed following a precipitation event for a free board of two feet.

9. EVAPORATION TANK LEVEL INDICATORS

a. The Evaporation Tanks shall be equipped with a level indicator that will visually alarm when the level of liquid in the Evaporation Tanks is detected within a distance of two feet from the top of the given tank.

b. The tanks shall be equipped with an audio alarm that will activate when the level indicator detects liquid at a distance of 1.25 feet from the top of the Evaporation Tank.

c. The audio alarm may be silenced if the tank has been labeled and posted that no further liquids will be added to it.

10. LEACHATE USED FOR DUST SUPPRESSION

a. Leachate may be used for dust suppression on the Mixed Waste Landfill Cell.

b. Leachate for dust suppression may include leachate taken from the leachate pipes as well as leachate collected inside the run-off berm around the Mixed Waste Landfill Cell.

c. Leachate used for dust suppression shall not leave the Mixed Waste Landfill Cell.

d. Leachate collected from the leachate pipes and used for dust suppression may be stored in vehicles or portable tanks for a maximum 24-hour time period within the footprint of the cell. All leachate collected from the leachate pipes shall be distributed (to the landfill as dust suppression or to permitted tanks or the Surface Impoundment) within 24-hours of collection.

e. A pump and sprinkler system may be used to distribute leachate within the Mixed Waste Landfill Cell.

f. Leachate used for dust suppression shall be applied in a manner so that ponding is minimized.

g. Leachate collected from leachate pipes and used for dust suppression shall be analyzed annually for the parameters listed in Condition V.5. of Attachment II-1, *Waste Analysis Plan*.

i. Leachate for dust suppression shall not exceed the following contaminant concentrations:

A. Total volatile and semi-volatile organic contaminants: 100 mg/kg

B. Metal Contaminants: characteristic concentrations as listed in Utah Admin. Code R315-13-1 (40 CFR 268.24 incorporated by reference).

ii. Total volatile and semi-volatile organic contaminants shall be the sum of all detected compounds analyzed using SW-846 methods 8260 and 8270, as modified.

iii. A sample shall be collected and analyzed from each sump prior to use of leachate from that sump for dust suppression.

A. This sample may be a composite sample of all sumps for which leachate will be used for dust suppression.

B. The sample(s) shall be collected and analytical results received prior to using leachate from any particular sump for dust suppression.

C. Results of these samples shall be placed in the Operating Record.

iv. After the initial sample, leachate samples shall be collected and analyzed on an annual basis from all sumps where leachate will be used as dust suppression.

A. These samples shall be collected each year prior to the first use of the leachate as dust suppression for the calendar year.

v. Leachate inside the run-off berm does not require sampling.

END OF ATTACHMENT II-1-6