

# Appendix I - Closure Plan - Tank T-2007

## 1.0 Closure Performance Standard

This Closure Plan for Tank-2007 (“T-2007”) is designed to minimize the need for further maintenance; and control, minimize, or eliminate, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and, comply with the closure requirements of applicable regulations including, but are not limited to, the requirements of 40 CFR §264.197.

As constructed and operated, the Facility minimizes threats to human health or the environment from T-2007. Releases of hazardous waste, hazardous waste constituents and waste decomposition products to the soil, groundwater, surface water, or atmosphere are eliminated.

T-2007 will be clean-closed without any requirements for post-closure care. The Facility will decontaminate T-2007 so that it can be dismantled and scrapped, or, depending on the condition of the tank, put into another service at the Facility. The specific efforts that will be performed by the Facility to satisfy the closure performance standard are discussed below.

## 2.0 Maximum Waste Inventory

T-2007 is used to store accumulated waste bearing EPA Waste Codes K048 and K051. T-2007 has a maximum capacity of 214,000 gallons. The accumulated waste in the tank will be disposed according to applicable regulations prior to final closure as part of normal refining operations.

### 3.0 Closure Schedule

The Facility anticipates that T-2007 will continue to be used indefinitely for the long-term (i.e., greater than 90 day) storage of hazardous waste. In accordance with 40 CFR §264.113, closure of T-2007 will begin within 90 days after receiving the final volume of hazardous waste. Closure activities will be completed within 180 days of receiving the final volume of hazardous waste. A relative schedule of closure, depicting individual closure tasks, is presented below.

**Table 3-1 T-2007 Closure Schedule**

Task	# of Days	Weeks							
		1	2-4	5	6-8	10	11-14	15	16
Mobilization	2								
Waste Removed from Tank	30								
Tank and Equipment Decontamination	10								
Decontamination Verification	2								
Certification	30								
Decontamination/Demobilization	2								
Tank Reuse or Demolition	30								
Total Work Days	106								
Total Weeks	15.1								

Note: The following contingencies were not factored into the timeline: Laboratory turnaround time, adverse weather conditions and operational constraints of the refinery.

## 4.0 Closure Procedures

The following procedures will be used to close T-2007.

- All waste stored in T-2007 will be removed and properly managed.
- Inlet piping will be disconnected and blinded at the inlet locations near the API separators. All inlet piping, outlet piping, pumps will be pressure washed.
- The interior of the tank itself will be rinsed using a Butterworth tank cleaning system or similar device to ensure that all residuals are removed.
- Wastes generated by the cleaning of the tank system will be routed into the refinery's API separator. The water fraction will be treated in the wastewater treatment system. The solid fraction will be handled as API Sludge (K051) and will also carry Environmental Protection Agency ("EPA") Hazardous Waste Code K048 given that it is also derived from that waste.
- Rinsate samples from the tank will be collected and analyzed for hazardous constituents using the Toxicity Characteristic Leaching Procedure ("TCLP"). Washing will continue until sampling of the rinsate from the tank pass TCLP limits for all hazardous constituents. Any visible leaks or spills detected during the decontamination process will be immediately cleaned up.
- The decontaminated tank and ancillary equipment will remain in place as a closed unit. The tank may be reused, and/or modified for reuse in another refinery service.
- Equipment utilized for closure of the tank will be washed on the concrete pad at T-2007. Wash water will be routed from this pad to the refinery's wastewater treatment system or picked up by vacuum truck and discharged into the refinery's wastewater treatment system.
- No visible contamination of the underlying soil was observed during the construction of Tank 2007 secondary containment system, which consists of a continuous concrete floor and dike. Internal inspection of T-2007 also revealed no loss of material through the floor. Thus, soil sampling will not be required as part of the closure plan.
- A Closure Report and certification, including analytical results, will be submitted to the Oklahoma Department of Environmental Quality ("ODEQ") for approval that T-2007 has been clean-closed.

## 5.0 Contingent Closure Plan for Tank 2007

- During decontamination, rather than returning wastes, residues, or washings to the refinery's API separator and wastewater treatment plant, the Facility may elect to collect that material, or a portion thereof, and dispose of it separately.
  - In the event of a leak in T-2007 and failure of the epoxy and concrete liner beneath T-2007, the emptied and cleaned tank will be removed from the foundation ring. The liner and concrete along with any visibly contaminated soil will be collected and disposed according to appropriate regulations. A total of three soil samples will be collected from the area under the concrete and analyzed for BTEX and total chromium and lead. If all constituents are below screening levels established by ODEQ for those parameters, the soil will be deemed clean.
  - If constituents exceed ODEQ screening levels, soils will be excavated until in situ soils do not contain constituents of concern in excess of ODEQ screening levels. Those soils will be disposed of at an off-site permitted facility as EPA Hazardous Waste bearing codes K048 and K051.
  - All equipment used for this contingent closure plan will be decontaminated manually in accordance with the following procedures:
    - Wash in tap water and Alconox detergent (phosphate free) using a brush, if necessary, to remove particulate and surface film.
    - Rinse in tap water.
- Decontamination will take place on the concrete surface of the secondary containment or on Visqueen or another similar impermeable surface.
- Wash and rinse waters will be routed to the API separator from where the water fraction is processed through the refinery's wastewater treatment plant. The solids will be handled as EPA Hazardous Waste bearing codes K048 and K051.
  - Given that clean closure is anticipated, no post-closure monitoring is required.

## 6.0 Closure Cost Estimate

The closure cost estimate for T-2007 is presented in the following table.

Tank 2007 Closure Cost Estimate				
Description	Unit of Measure	Number of Units	Unit Cost	Cost
Mobilization/Demobilization	Each	1	\$1,000	\$1,000
Emptying Tank of Waste <sup>1</sup>	Hours	176	\$ 35/hour - Supervisor	\$6,160
Emptying Tank of Waste	Hours	352	\$20 / hour - Laborer	\$7,040
Disposal of Solids Generated (incl. trans)	Tons	109	\$250/ton	27.250
Equipment to Clean Tank	Each	9 days	\$1,500	\$13,500
Rinsing of Tank <sup>2</sup>	Hours	72	\$ 35/hour - Supervisor	\$2,520
Rinsing of Tank	Hours	144	\$ 20/ hour - Laborer	\$2,880
Analysis of Rinsate	Each	1	\$160	\$160
Equipment Decontamination	Hours	8	\$ 35/hour - Supervisor	\$280
Equipment Decontamination	Hours	16	\$ 20/hour - Laborer	\$320
Decontamination Supplies	Each	1	\$500	\$500
Closure Report and Certification	Each	1	\$7,500	\$7,500
Sub-Total				\$69,110
Contingency (15%)				\$10,367
<b>Total</b>				<b>\$79,477</b>

<sup>1</sup> Assumes 22 working days, 8 hours per day

<sup>2</sup> Assumes 9 working days, 8 hours a day