EPA United States Environmental Protection Agency

EPA 530-R-25-023

Resource Conservation and Recovery Act (RCRA)
Hazardous Waste Model Permit
Tanks Module

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When EPA releases a new or revised model permit module, it replaces the corresponding module, including the corresponding module in the 1988 Model RCRA Permit for Hazardous Waste Management Facilities (Draft).

MODULE XII. TANKS

{Permit Writer: This permit module contains conditions covering the unit-specific standards for tank systems in 40 CFR part 264, subpart J.

Per 40 CFR 260.10, a tank system means a hazardous waste storage or treatment tanks and its associated ancillary equipment and containment system. Ancillary equipment is defined as any device including piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment Tanks to a point of disposal onsite, or to a point of shipment for disposal off site.

The model permit conditions in this module reference federal regulations and guidance. Permit Writers should confirm their regulatory citations and their authority's guidance for each permit condition and replace (or add to) the federal citations with state analogous regulatory citations and/or references as applicable. When jointly issuing permits, the federal Permit Writer will issue the federal portion of the permit citing the federal regulations while the state Permit Writer will cite the state analogous regulatory citation in the state's jointly issued portion of the permit.

State Permit Writers need to add or revise permit conditions for State regulatory requirements that are broader in scope, more specific, or otherwise different than the federal requirements.

Permit Writers can insert the title(s) of their regulatory authority's appropriate official(s) for or in addition to instances where the module uses "Director." When jointly issuing permits, the federal Permit Writer will cite the EPA Region's appropriate official in the federal portion of the permit and the state will cite the state's appropriate official in the state's portion of the permit.

Information contained in the following documents provide additional guidance in drafting this Permit Module: Introduction to Tanks (40 CFR parts 264/265, subpart J)(EPA530-K-05-018); Rules for Hazardous Waste Tank Systems (EPA/530/SW-88-004); Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems (EPA/530-SW-86-044); Hazardous Waste Treatment, Storage, and Disposal Facilities Regulations, Version 8 (EPA 530-R-11-006); Protocol for Conducting Environmental Compliance Audits of Storage Tanks Under RCRA (EPA/300/B-00/006); Hazardous Waste Tank Systems Inspection Manual dated September 1988; Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90-004).}

XII.A. APPLICABILITY

{Permit Writer: This section of this module should clearly identify whether hazardous waste tank systems (tank systems) are considered an "existing tank system or existing component" or a "new tank system or new tank component" as defined in 40 CFR 260.10. This distinction is key to determining the applicable regulatory requirements for preparing Permit Conditions. An "existing tank system or existing component" is one which is in operation or for which installation has commenced on or prior to July 14, 1986. A "new tank system or new tank component" is one for which installation/construction has commenced/will commence after July 14, 1986. New tank systems also include reinstalled and replacement tank systems or components. [See Hotline Training Module for Tanks. Section 2.2, pg.3] If the Facility has no "existing tanks or tank systems" that will be addressed under this module, the Permit Writer can indicate that the Permit Conditions identified in XII.C. are not applicable at the time of permit issuance.

This section of the module should also clearly indicate whether the tank systems are managing hazardous wastes with a volatile organic concentration (VOC) greater than 500 parts per million (ppm) by volume and as such is subject to the requirements of 40 CFR part 264, subparts AA, BB, and CC.}

XII.A.1. The Permittee is authorized to store {and treat} hazardous waste in the following tank systems as described in Tables XII.A.1 and XII.A.2. and subject to the conditions of this Permit. A map of the locations of the tanks systems is included in Figure {XXX} in Section {XXX} of the Approved Permit Application. Tank systems include ancillary equipment, which is defined as any device including piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment Tanks to a point of disposal onsite, or to a point of shipment for disposal off site. [Applicable permit conditions addressing RCRA Organic Air Emissions Standards are in Module {XXX} of this Permit.] [Refer to 40 CFR 260.10, 264.190, 264.200, 264.1030, 264.1050, 264.1080, 270.13, and 270.16.]

Table XII.A.1 List of Permitted Hazardous Waste Tank Systems

Tank No.	**Tank System (New/Existing)**	**Permitted Activity (Storage/Treatment)**	**Subject to RCRA Organic Air Emissions Standards (see Module {XXX})**
Example: T-1	New	Treatment	Yes
Example: T-111	Existing	Storage	No

XII.A.2. The Permittee may store a total volume of {insert appropriate quantity} of hazardous waste in the {insert number of Tanks} Tanks, identified in Table XII.A.1, subject to the terms of this Permit Module.

XII.A.3. The Permittee must not exceed the capacity for each tank identified in Table XII.A.2.

XII.A.4. The Permittee is prohibited from storing or treating any hazardous waste(s) that is not specifically identified in Table XII.A.2.

Table XII.A.2 Description of Permitted Hazardous Waste Tank Systems

Tank No. & Location	**Capacity (gallons)**	**Dimensions of Tank**	**Tank Construction Material**	**Secondary Containment Required**	**Maximum Specific Gravity**	**Description of Hazardous Waste**	**Hazardous Waste No.**
Example: T-1	8,000	16’-0” straight side 10’-0” diameter 8’-0” 62° bottom cone	Steel	Yes	1.1	Spent Carbon	D001

Example: T-111	6,000	7'-6" straight side 10'-4.5" diameter 9'-4.75" 60° bottom cone	HDPE	Yes	1.28	Acid	D002

{Permit Writer: If the Facility is not managing hazardous waste containing 500 ppmw or more of VOCs at the point of waste origination, then include Permit Condition XII.A.5.}

XII.A.5. Per Section {XXX} of the Approved Permit Application, the Permittee stated that the Facility is not managing any hazardous waste containing 500 ppmw or more of VOCs at the point of waste origination in the tank system(s) at the Facility. The Permittee is prohibited from storing or treating in the tank system(s) any hazardous waste containing 500 ppmw or more of VOCs at the point of waste origination until the Permittee has submitted a request for a Permit Modification to the {Director} and received written approval from the {Director} in accordance with Permit Condition I.B.2. of this Permit. [Refer to 40 CFR 264.200, 264.1080, and 270.16(k).]

XII.B. EXISTING TANK INTEGRITY ASSESSMENTS

{Permit Writer: 40 CFR 264.193 requires that all new and existing tank systems or components be provided with secondary containment prior to the tank systems/components being placed into service. If a tank system is to be used for the storage or treatment of newly identified hazardous wastes, the secondary containment system must be provided within 2 years of the hazardous waste listing or when the tank system has reached 15 years of age, whichever comes later.

40 CFR 264.193(d) states that secondary containment for tanks must include one or more of the following devices: (1) a liner external to the tank; (2) a vault; (3) a double-walled tank; or (4) an equivalent device approved by the Director. The Permit Writer should consult the following guidance documents when evaluating proposed designs for secondary containment systems: Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems (EPA/530-SW-86-044), Rules for Hazardous Waste Tank Systems (EPA/530/SW-88/004), 53 Federal Register(FR) 34084, and RCRA Online 12953, 13152, 13244, 13250, and 14395. Secondary containment systems must meet all the requirements of 40 CFR 264.193 except for certain types of ancillary equipment or if the Permittee obtained a variance from the design requirements outlined in 40 CFR 264.193(g).

Secondary containment is not required for ancillary equipment when the following conditions are met: (1) aboveground piping is visually inspected on a daily basis; (2) pipe runs that have all welded fittings and are inspected daily; (3) pressurized aboveground piping systems equipped with automatic shut-off devices that are visually inspected for leaks on a daily basis; and (4) sealless or magnetic-coupling pumps and sealless valves that are visually inspected on a daily basis. Per 40 CFR 264.193(b) secondary containment for ancillary equipment must be capable of collecting releases and accumulated liquids until the collected material is removed.

The Permit Conditions provided in XII.B.1. through XII.B.5. should be included only if there are existing tank systems that are not equipped with secondary containment that will be addressed in the Permit. If there are no "existing tanks or tank systems" to be addressed under this Permit Module, the Permit Writer does not need to include the Permit Conditions identified in Permit Condition XII.B.}

XII.B.1. The Permittee must ensure that all existing tank systems at the Facility that do not have secondary containment meeting the requirements of 40 CFR 264.193 are not leaking and fit for use. [Refer to 40 CFR 260.10 and 264.191.]

XII.B.2. The Permittee must keep on file at their Facility a written assessment reviewed and certified by a qualified Professional Engineer registered in {insert State}, that attests to the tank system's integrity. The written assessment must determine that the tank system is adequately designed and constructed appropriately and has sufficient structural strength and compatibility with the hazardous waste(s) to be stored and treated, to ensure that the tank system will not collapse, rupture or fail. At a minimum, this assessment must address the following:

XII.B.3.a. Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

XII.B.3.b. Hazardous characteristics of the waste(s) that have been and will be handled;

XII.B.3.c. Existing corrosion protection measures;

XII.B.3.d. Documented age of the tank system, if available (otherwise, an estimate of the age); and

XII.B.3.e. Results of a leak test, internal inspection, or other tank integrity examination such that:

XII.B.3.e.i. For non-enterable underground tanks, the assessment must include a leak test that is capable of considering the effects of temperature variations, tank end deflection, vapor pockets, and high-water table effects, and

XII.B.3.e.ii. For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination that addresses cracks, leaks, corrosion, and erosion that is certified by a qualified Professional Engineer registered in {insert State}, in accordance with Permit Condition XII.B.1. of this Permit Module and Permit Condition I.G. of Module I of this Permit. [Refer to 40 CFR parts 264.191(b), 270.11, 270.16(a), and 270.30.]

XII.B.3. For tank systems used to store or treat materials that are newly defined as hazardous waste after the issuance of this Permit, the Permittee must obtain a written assessment of the existing tank system integrity within 12 months from the date the waste is defined as hazardous. The Permittee must ensure the assessment is certified by an independent, qualified, registered Professional Engineer registered in {State}. In addition, the Permittee must submit a request for approval of a Permit Modification in accordance with Permit Condition I.G.7. [Refer to 40 CFR 264.191(a) and (c).]

XII.B.4. If, as a result of the integrity assessment conducted in accordance with Permit Condition XII.B.2. of this Permit Module, a tank system is found to be leaking or unfit for use, the Permittee must comply with the requirements of 40 CFR part 264.196 and Permit Condition XII.G. of this Permit Module. [Refer to 40 CFR 264.191(d).]

XII.C. DESIGN AND INSTALLATION OF NEW TANK SYSTEMS OR COMPONENTS

{Permit Writer: Per 40 CFR part 264.192(a) new tank systems require that an integrity assessment of the tank and its components be conducted upon installation. The integrity assessment must be certified by a qualified Professional Engineer. Many states require that the Professional Engineer be licensed and registered in the state where the tank or tank system is located. Permit Writers should confirm whether that is required under the state-specific regulations.

The Permittee should provide detailed information for each tank system in their Permit Application including design standards; materials of construction; construction diagrams or drawings; integrity assessments; ancillary equipment; secondary containment type, construction, lining or coating, and capacity; external corrosion protection; overfill controls; and release detection. This information should then be used by the Permit Writer to craft defensible Permit Conditions and relevant sections from the Approved Permit Application should be referenced in the Permit Conditions.

The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems," or American National Standards Institute (ANSI) Standard B31.3, "Petroleum Refinery Piping," and ANSI Standard B31.4 "Liquid Petroleum Transportation Piping System," may be used, where applicable, as guidelines for proper installation of piping systems.

The practices described in the National Association of Corrosion Engineers (NACE) standard, Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, and the API Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, may be used, where applicable, as guidelines in providing corrosion protection for tank systems.}

XII.C.1. Prior to the installation of any tank system or component, the Permittee must obtain and submit to the {Director} a written assessment, reviewed and certified by a Professional Engineer registered in {State}, attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The written assessment must include all the information required under 40 CFR 264.192(a) and must be submitted along with a request for approval of a Permit Modification in accordance with Permit Condition I.G.7. [Refer to 40 CFR 264.192(a).]

XII.C.2. The Permittee must ensure proper handling procedures are adhered to in order to prevent damage to the new tank system during installation. Prior to covering, enclosing, or placing a new tank system in use, an independent, qualified installation inspector or a qualified Professional Engineer registered in {State}, either of whom is trained and experienced in properly installing tank systems or components, must inspect the system for weld breaks, punctures, scrapes of protective coatings, cracks, corrosion, and other structural damage or inadequate construction or installation. All deficiencies noted during the inspection shall be remedied before the tank system is placed in use. [Refer to 40 CFR 264.192(b).]

XII.C.3. The Permittee must ensure that new tank systems and/or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported. [Refer to 40 CFR 264.192(c).]

XII.C.4. The Permittee must test all new tanks and ancillary equipment for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, the Permittee must perform all repairs necessary to remedy the leak(s) in the system before the tank system is covered, enclosed, or placed in use. [Refer to 40 CFR 264.192(d).]

XII.C.5. The Permittee must ensure all ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction. [Refer to 40 CFR 264.192(e).]

XII.C.6. The Permittee must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under Permit Condition XII.C.1., or other corrosion protection if the {Director} believes other corrosion protection is necessary to ensure the integrity of the tank system during use. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation. [Refer to 40 CFR 264.192(f).]

XII.C.7. The Permittee must obtain, and keep on file at the Facility, written statements by those persons required to certify the design of the tank system and supervise the installation and repairs of the tank system, as required by 40 CFR 264.192(b) through (f). These written statements must include the certification statement as required in 40 CFR 270.11(d) and Permit Condition I.G. [Refer to 40 CFR 264.192(g) and 270.11(d).]

XII.D. CONTAINMENT AND DETECTION OF RELEASES

{Permit Writer: Per 40 CFR 264.193(c)(3), secondary containment systems must be provided with release detection such that any failure of the primary containment system is detected within 24 hours of occurrence. The Facility must ensure that spilled or leaked waste and any accumulated precipitation is removed from the secondary containment system within 24 hours or as soon as possible to prevent harm to human health and the environment. Technical guidance on the various release detection systems and leak sensors can be found in Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems (EPA/530-SW-86-044).

Tank systems that are used to store or treat hazardous waste which contain no free liquids and are situated inside a building with an impermeable floor are exempted from the secondary containment and leak detection requirements outlined in 40 CFR 264.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095B (Paint Filter Liquids Test) as described in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846.}

XII.D.1. The Permittee must ensure that each secondary containment system meets the requirements outlined in the detailed design plans and descriptions contained in Section {XXX} of the Approved Permit Application and as specified in 40 CFR 264.193 and provided for each tank system identified in Tables XII.A.1 and XII.A.2. [Refer to 40 CFR 264.193(a) and 270.16(g).]

XII.D.2. The Permittee must ensure that each secondary containment system meets the following requirements, at a minimum as required by 40 CFR 264.193(b) and (c):

XII.D.2.a. Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system;

XII.D.2.b. Capable of detecting and collecting releases and accumulated liquids until the collected material is removed;

XII.D.2.c. Constructed of or lined with materials that are compatible with the wastes(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic

conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);

XII.D.2.d. Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

XII.D.2.e. Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the Permittee can demonstrate to the {Director} that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and

XII.D.2.f. Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or, if the Permittee can demonstrate to the {Director} that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours, in as timely a manner as is possible to prevent harm to human health and the environment. [Refer to 40 CFR 264.193(b) and (c).]

{Permit Writer: 40 CFR 264.193 includes secondary containment requirements for external liner systems, vault systems, and double walled tanks. Conditions for those systems are listed in XII.D.3.}

XII.D.3. The Permittee must ensure that each of the tank systems identified in Tables XII.A.1 and XII.A.2 of this Permit Module is equipped with a secondary containment system which meets the specifications outlined in Section {XXX} of the Approved Permit Application and 40 CFR 264.193(d). The following tank systems: {insert tank numbers that are equipped with an external liner} are subject to Permit Conditions XII.D.4., XII.D.5., XII.D.6., and XII.D.7. The following tank systems {insert tank numbers that are equipped with a vault system} are subject to Permit Conditions XII.D.4., XII.D.5., XII.D.8, XII.D.9, XII.D.10, and XII.D.11. The following tank systems {insert tank numbers that are equipped with double walls} are subject to Permit Condition XII.D.12, XII.D.13, and XII.D.14. [Refer to 40 CFR 24.193(d) and (e) and 270.16(g).]

XII.D.4. The Permittee must ensure that secondary containment is designed and operated to contain 100 percent of the capacity of the largest hazardous waste tank within its boundary. Secondary containment must be maintained for tanks within its boundary while those tanks remain in service. [Refer to 40 CFR 246.193(b)(1), 264.193(e)(1)(i), and 264.193(e)(2)(i).]

XII.D.5. The Permittee must ensure that secondary containment is designed and operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event. [Refer to 40 CFR 264.193(e)(1)(ii) and (2)(ii).]

XII.D.6. The Permittee must ensure that secondary containment is free of cracks or gaps. The Permittee must maintain a sealant on any such areas that is compatible with the wastes stored in the tank system. [Refer to 40 CFR 264.193(e)(1)(iii).]

XII.D.7. The Permittee must design and install the secondary containment to surround the tank completely and to cover all surrounding earth likely to come into contact with the wastes if the waste is released from the tank (i.e., capable of preventing lateral as well as vertical migration of the waste.) [Refer to 40 CFR 264.193(e)(1)(iv).]

XII.D.8. The Permittee must construct the secondary containment with chemical-resistant water stops in place at all joints (if any). [Refer to 40 CFR 264.193(e)(2)(iii).]

XIIXII.D.9. The Permittee must ensure that the secondary containment is provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete [Refer to 40 CFR 264.193(e)(2)(iv).]

{Permit Writer: Permit Condition XII.D.10. should be included in the Permit only if the tank system is equipped with a vault system and the tank(s) are used for the storage/treatment of ignitable hazardous waste or reactive hazardous waste that may form an ignitable or explosive vapor. If this scenario is not applicable to the Facility, then this Permit Condition should be deleted and the remaining Permit Conditions in XII.D. of this Permit Module should be renumbered.}

XII.D.10. The Permittee must ensure that the following Tanks {insert tank numbers} which are {storing/treating} {ignitable and/or reactive} hazardous wastes are provided a means to protect

against the formation of and ignition of vapors within the vault system. [Refer to 40 CFR 264.193(e)(2)(v).]

XII.D.11. The Permittee must ensure that the secondary containment is provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure. [Refer to 40 CFR 264.193(e)(2)(vi).]

{Note to Permit Writer: The provisions outlined in the Steel Tank Institute's Standard for Dual Wall Underground Steel Storage Tanks may be used as guidelines for aspects of the design of underground steel double-walled tanks.}

XII.D.12. The Permittee must ensure that each double-walled tank, {insert tank numbers}, are designed and maintained as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell. [Refer to 40 CFR 264.193(e)(3)(i).]

XII.D.13. The Permittee must protect the double-walled tanks, if constructed from metal, from corrosion of the primary tank interior and of the external surface of the outer shell. [Refer to 40 CFR 264.193(e)(3)(ii).]

XII.D.14. The Permittee must provide the double-walled tanks with a built-in continuous leak detection system capable of providing a release within 24 hours, or at the earliest practicable time if the Permittee can demonstrate to the {Director} that existing detection technologies or site conditions will not allow detection of a release within 24 hours. [Refer to 264.193(e)(3)(iii).]

{Note to Permit Writer: The following ancillary equipment is exempt from secondary containment when visually inspected for leaks on a daily basis: 1) aboveground piping (exclusive of connections); 2) welded flanges, welded joints and welded connections; 3) sealless or magnetic coupling pumps and sealless valves; and 4) pressurized aboveground piping systems with automatic shut-off devices [Refer to 40 CFR 264.193(f).}

XII.D.15. The Permittee must ensure that the ancillary equipment associated with the tank systems identified in Tables XII.A.1 and XII.A.2 are provided with secondary containment that meets the requirements of Permit Condition XII.D.2.a through XII.D.2.f. [Refer to 40 CFR 264.193(f).]

XII.D.16. The Permittee must design, construct, operate, and maintain the tank system according to the detailed plans and reports contained in Section {XXX} of the Approved Permit Application to maintain the variance from the requirements for secondary containment. [Refer to 40 CFR 264.193(g).]

{Note to Permit Writer: If there is no variance, condition E.16 can be deleted.}

XII.E. GENERAL OPERATING REQUIREMENTS

XII.E.1. The Permittee must not place hazardous wastes {or treatment reagents} in the tank system(s) if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail. [Refer to 40 CFR 264.194(a).]

XII.E.2. The Permittee must use appropriate controls and practices to prevent spills and overflows from tanks or containment systems as required by 40 CFR 264.194(b), and by the methods specified in Section {XXX} of the Approved Permit Application. These controls and practices include, at a minimum: appropriate spill prevention controls (e.g., check valves, dry disconnect couplings), overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank), and maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wind or wave action or by precipitation. [Refer to 40 CFR 264.1954(b).]

XII.E.D. In the event of a leak or spill occurs in any of the tank systems identified in Tables XII.A.1 or XII.A.2, the Permittee must comply with the requirements outlined in Permit Conditions XII.G. and I.F.5. [Refer to 40 CFR 264.194(c), 264.196 and 270.30(l)(6)(i) through (iii).]

XII.F. INSPECTIONS

{Permit Writer: A useful document for reviewing compliance with the hazardous waste tank regulatory requirements and guidance on inspections can be found in the Protocol for Conducting Environmental Compliance Audits of Storage Tanks Under RCRA (EPA/300/B-00/006). In addition, XII.F.4 and XII.F.5 are mutually exclusive. If a tank system does not have a leak detection system, that tank system would fall under XII.F.4, and if it does, it would fall under XII.F.5.}

XII.F.1. The Permittee must inspect all tanks and tank systems as specified in Permit Conditions XII.F.2., XII.F.3., and XII.F.4., and in the Approved Inspection Schedule included in Section {XXX]

of the Approved Permit Application. The Permittee must complete the inspection forms in Appendix {XXX} of the Approved Permit Application and complete the items in Permit Conditions XII.F.2. through XII.F.4. as part of those inspections. [Refer to 40 CFR 264.195.]

XII.F.2. The Permittee must inspect the {insert the specific overfill controls associated with the storage tanks, for example automatic shutoff devices, overfill alarms or ball float valves} in accordance with the Approved Inspection Schedule in Section {XXX} of the Approved Permit Application. [Refer to 40 CFR 264.195(a) and 270.14(b)(5).]

XII.F.3. At least once each operating day, the Permittee must inspect the data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank systems are being operated according to their designs as specified in Section {XXX} of the Approved Permit Application. [Refer to 40 CFR 264.195(b) and 270.14(b)(5).]

XII.F.4. The Permittee must visually inspect each of the tank systems, {insert Tank IDs}, at least once each operating day and as provided in the Approved Inspection Schedule in Section {XXX} of the Approved Permit Application. This inspection must include, at a minimum:

> XII.F.4.a. A visual inspection of the above-ground portions of the tank systems to detect signs of deterioration, corrosion or releases of waste; and
>
> XII.F.4.b. A visual inspection of the construction materials, surface coatings, and the area immediately surrounding the externally accessible portion of each tank system, including the secondary containment systems (e.g., dikes), to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation). [Refer to 40 CFR 264.195(c) and 270.14(b)(5).]

XII.F.5. Permittees that use leak detection systems or implement workplace practices to ensure leaks are promptly identified must inspect at least weekly those areas described below. This inspection must include, at a minimum:

> XII.F.5.a. A visual inspection of the above-ground portions of the tank systems to detect signs of deterioration, corrosion or releases of waste; and
>
> XII.F.5.b. A visual inspection of the construction materials, surface coatings, and the area immediately surrounding the externally accessible portion of each tank system, including

the secondary containment systems (e.g., dikes), to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation) [Refer to 40 CFR 264.195(c) and 270.14(b)(5).]

XII.F.6. The Permittee must visually inspect once each operating day ancillary equipment that is not provided with secondary containment as described in 40 CFR 264.193(f)(1) through (4), in accordance with 40 CFR 264.195(f). [Refer to 40 CFR 264.195(f).]

XII.F.6.a. Above ground piping Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

XII.F.6.b. Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

XII.F.6.c. Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

XII.F.6.d. Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

{Note to Permit Writer: If cathodic protection is required for any of the hazardous waste tanks systems at the Facility, then the Permit Writer should include Permit Condition XII.F.7. in the Permit. The practices described in the NACE standard, Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, and the API Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.}

XII.F.7. The Permittee must inspect cathodic protection systems in accordance with the following schedule:

XII.F.7.a. The proper operation of the cathodic protection system must be confirmed within 6 months from initial installation and annually thereafter; and

XII.F.7.b. All sources of impressed current must be inspected and tested every other month. [Refer to 40 CFR 264.195(g).]

XII.F.8. The Permittee must document compliance with Permit Conditions XII.F.1. through XII.F.7. and place this documentation in the operating record for the Facility. Any deterioration or malfunction found shall be remedied according to 40 CFR 264.15(c). In addition, 40 CFR 302.6 may require the Permittee to notify the National Response Center in the event of a release. [Refer to note in 40 CFR 264.195(b) and 40 CFR 264.195(h).]

{Permit Writer: Under 40 CFR 270.32(b)(2), the {Director} may include the terms and conditions deemed necessary to protect human health and the environment. Under these provisions, Conditions XII.F.9.a through XII.F.9.f may be added to the permit, as applicable and as determined necessary by the {Director} on a site-specific basis.}

XII.F.9. The Permittee shall measure tank shell and bottom thickness annually. The top thickness of Tanks shall be measured every 2 years. Records of all measurements and an annual assessment of remaining tank life shall be kept in the operating record for the life of the tank. Specifically:

XII.F.9.a. Testing must be performed by an individual trained in the use of shell thickness measuring equipment.

XII.F.9.b. Measurements shall be concentrated at areas that are most likely to be in frequent contact with stored liquid.

XII.F.9.c. At a minimum, the tank wall shall have measurements taken vertically spaced 120 degrees apart, at no greater than 2-foot vertical intervals. At least one measurement in each row shall be taken within 1 foot of the bottom of the tank. Measurements shall be concentrated near the most common liquid level of the tank.

XII.F.9.d. At a minimum, the tank bottom measurements shall take no fewer than four measurements, at least 2 feet from the center point of the tank bottom, spaced at 90-degree intervals.

XII.F.9.e. At least 25 percent of all measurements must be taken within 1 inch of high-stress areas (i.e. seam or heat-affected zone), if possible.

XII.F.9.f. Permanent test points on exterior surfaces must be selected in accordance with the above criteria and permanently marked to assure consistency of measurement and give a valid indication of any thickness reduction. [Refer to 40 CFR 264.195(c)(1).]

{Permit Writer: If any of the hazardous waste tanks manage hazardous waste with a volatile organic concentration of 500 ppm by volume, then the RCRA organic air emission standards may apply. A separate Model Permit Module was prepared to address the air emission standards. The Permit Writer should include Permit Condition XII.F.10. in the Permit and reference other applicable Permit Conditions related to inspection requirements from the Model Permit Module. If the Permittee is not operating any tanks subject to the air emission standards, then Permit Condition XII.F.10. should be deleted from the Permit.}

XII.F.10. The following hazardous waste tanks {insert Tank name/number} are subject to 40 CFR part 264, subparts AA, BB and CC. The Permittee must perform inspections of the air emission control equipment in accordance with 40 CFR 264.1084(c) and Permit Conditions {XXX} of this Permit. [40 CFR 264.1084(c).]

XII.G. RESPONSE TO LEAKS OR SPILLS AND DISPOSITION OF LEAKING OR UNFIT FOR USE TANK SYSTEMS

XII.G.1. In the event of a leak or a spill from the tank system, from a secondary containment system, or if a system becomes unfit for continued use, the Permittee must remove the system from service immediately and complete the following actions:

XII.G.1.a. Stop the flow of hazardous waste into the system and inspect the system to determine the cause of the release.

XII.G.1.b. Remove waste and accumulated precipitation from the system within 24 hours of the detection of the leak to prevent further release and to allow inspection and repair of the system.

XII.G.1.c. If the Permittee finds that it will be impossible to meet the time period in G.1.b, the Permittee must notify the {Director} and demonstrate that the longer time period is required.

XII.G.1.d. If the collected material is a RCRA hazardous waste, it must be managed in accordance with all applicable requirements of 40 CFR parts 262 through 264. The Permittee must note that if the collected material is discharged through a point source to U.S. Waters or to a publicly owned treatment works (POTW), it is subject to requirements of the Clean Water Act. If the collected material is released to the

environment, it may be subject to reporting under 40 CFR part 302. [Refer to note in 264.193(c) and 40 CFR 264.196(a) and (b).]

XII.G.2. The Permittee must immediately conduct a visual inspection of all releases to the environment and based on that inspection: (1) prevent further migration of the leak or spill to soils or surface water and (2) remove and properly dispose of any visible contamination of the soil or surface water. [Refer to 40 CFR 264.196(c).]

XII.G.3. The Permittee must report to the {Director}, within 24 hours of detection, when a leak or spill occurs from the tank system or secondary containment system to the environment. A leak or spill of 1 pound or less of hazardous waste, that is immediately contained and cleaned up, is exempted from the requirements of this Permit Condition. Releases that are contained within a secondary containment system need not be reported. If the Permittee reported the release pursuant to 40 CFR part 302, this report satisfies the requirements of this Permit Condition. [Refer to 40 CFR 264.196(d)(1) and (d)(2).]

{Permit Writer: The time period (XXX) in XXII.G.4 must not be greater than 30 days, as that's the time period in 40 CFR 264.196(d)(3).}

XII.G.4. Within {XXX} days of detecting a release to the environment from a tank system or secondary containment system, the Permittee must report the following information to the {Director}:

XII.G.4.a. Likely route of migration of the release.

XII.G.4.b. Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate).

XII.G.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 should provide the {Director} with a schedule of when the results will be available. This schedule must be provided before the required {XXX}-day submittal period expires.

XII.G.4.d. Proximity of downgradient drinking water, surface water, and populated areas; and

XII.G.4.e. Description of response actions taken or planned. [Refer to 40 CFR 264.196(d)(3).]

XII.G.5. The Permittee must ensure that all tank systems are either repaired or closed in accordance with the following requirements:

XII.G.5.a. For a release caused by a spill that has not damaged the integrity of the system, the Permittee must remove the released waste from the system before returning the tank system to service.

XII.G.5.b. For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee must repair the primary system prior to returning it to service.

XII.G.5.c. For a release to the environment caused by a leak from a component of the tank system that is below ground and does not have secondary containment, the Permittee must provide this component with secondary containment that meets the requirements of 40 CFR 264.193 before the component can be returned to service.

XII.G.5.d. For a release to the environment caused by a leak from the above-ground portion of the tank system that does not have secondary containment, and can be visually inspected, the Permittee must repair the tank system before returning it to service.

XII.G.5.e. For a release to the environment caused by a leak from the portion of the tank system component that is not readily available for visual inspection, the Permittee shall provide secondary containment that meets the requirements of 40 CFR 264.193 before the component can be returned to service.

XII.G.5.f. If the Permittee replaces a component of the tank system to eliminate the leak, that component must satisfy the requirements for new tank systems or components in 40 CFR 264.192 and 264.193.

XII.G.5.g. In the event that the Permittee cannot meet the requirements of Permit Conditions XII.G.5.a. through XII.G.5.e., the Permittee must immediately close the tank system in accordance with Approved Closure Plan, Section {XXX} of the Approved Permit

Application and the requirements of Permit Condition XII.I. of this Permit Module. [Refer to 40 CFR 264.196(e)(1) through (4).]

XII.G.6. For all major repairs to eliminate leaks or restore the integrity of the tank system, the Permittee must obtain a certification by a qualified Professional Engineer registered in {insert State}, 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 include installation of an internal liner, repair of a ruptured tank, or repair or replacement of a secondary containment vessel. [Refer to 40 CFR 264.196(f).]

XII.G.7. The Permittee must submit to the {Director} all certifications of major repairs to correct leaks within {XXX} days from returning the tank system to use, and maintain those certifications in the operating record. [Refer to 40 CFR 264.196(f) and 270.11(d).]

XII.H. CLOSURE AND POST-CLOSURE CARE

{Note to Permit Writer: Conditions under this section should be coordinated with those under the Closure, Post-Closure and Financial Requirements modules.}

XII.H.1. At closure of the tank system(s), the Permittee must follow the procedures in the Approved Closure Plan in Section {XXX} of the Approved Permit Application. The permittee must remove or decontaminate all waste residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with waste and manage them as hazardous waste. [Refer to 40 CFR 264.197(a).]

XII.H.2. If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated, in accordance with the Closure Plan, then the Permittee shall close the tank system(s) and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills. [Refer to 40 CFR 264.197(b).]

XII.H.3. If the Permittee has a tank system that does not have secondary containment that meets the requirements of 40 CFR 264.193 (b) through (f) and has not been granted a variance from the secondary containment requirements in accordance with 40 CFR 264.193(g), then the Permittee must ensure that the following requirements are met:

XII.H.3.a. The closure plan for the tank system must include both a plan for complying with Permit Condition XII.H.1. and a contingent plan for complying with Permit Condition XII.H.2.

XII.H.3.b. A contingent post-closure plan for complying with Permit Condition XII.H.2. must be prepared and submitted as part of the Approved Permit Application.

XII.H.3.c. The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under Permit Condition XII.H.1. of this Permit Module.

XII.H.3.d. Financial assurance must be based on the cost estimates in Permit Condition XII.H.3.c. of this Permit Module.

XII.H.3.e. For the purposes of the contingent closure and post-closure plans, such a tank system is considered a landfill, and the contingent plans must meet all the closure, post-closure, and financial responsibility requirements for landfills under 40 CFR part 264 subparts G and H. [Refer to 40 CFR 264.197(c).]

XII.I. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

XII.I.1. The Permittee must not place ignitable or reactive waste in the tank system or in the secondary containment system, unless the procedures specified in Section {XXX} of the Approved Permit Application are followed. [Refer to 40 CFR 264.198(a) and 270.16(j).]

XII.I.2. The Permittee must comply with the requirements for the maintenance of protective distances between any waste management area storing ignitable and or reactive wastes and any public ways, streets, alleys, or an adjoining property that can be built upon, as required in Tables 2-1 through 2-6 of the National Fire Protection Association's Flammable and Combustible Liquids Code (1977 or 1981). [Refer to 40 CFR 264.198(b).]

XII.J. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

XII.J.1. The Permittee must not place incompatible wastes, or incompatible wastes and materials, in the same tank system or the same secondary containment system, unless the

procedures specified in Section {XXX} of the Approved Permit Application are followed. [Refer to 40 CFR 264.17(b), 264.199(a) and 270.16(j).]

XII.J.2. The Permittee must not place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless the requirements of 40 CFR 264.17(b) are met. [Refer to 40 CFR 264.199(b).]

XII.K. AIR EMISSION STANDARDS

{Permit Writer: A separate model permit module has been prepared which addresses the air emission standards promulgated in 40 CFR part 264, subparts AA, BB, and CC. The Permit Application should clearly indicate whether the tank systems addressed in this Permit Module are managing hazardous wastes with a volatile organic concentration greater than 500 ppm by volume and as such is subject to the requirements of 40 CFR part 264, subpart CC, provided that no exemptions from these requirements apply. The Permit Writer should carefully review the Permit Conditions in the air emissions module for use in preparing a site-specific permit.}

The Permittee must ensure that all hazardous waste placed in tank systems are managed so that the Permittee meets all the requirements of 40 CFR part 264, subparts BB and CC and the Permit Conditions specified in Module {XXX} of this Permit. [Refer to 40 CFR 264.200.]