

PART III

STORAGE AND TREATMENT IN TANKS

PART III: STORAGE AND TREATMENT IN TANKS

III.A. UNIT DESCRIPTION

The Permittees are allowed to construct tanks for subsequent storage and treatment of hazardous waste following the requirements of 6 CCR 1007-3 Part 264, Subpart J and in the following manner:

- III.A.1. Three 30-day Hydrolysate Storage Tanks - The Hydrolysate Storage Tanks shall be constructed and maintained as follows:

The Hydrolysate Storage Tanks are depicted on the site plot plan (Drawing Number 24852-RD-P1-000-P0030 to Attachment E) and consist of three above ground, carbon steel insulated tanks. The minimum shell thicknesses for the tanks will be as follows: 0.375 inch ASTM A36 carbon steel crowned bottom for the tank floor, the roof will be an umbrella head design constructed of 0.375 inch ASTM A36 carbon steel; the shell thickness will be 0.3125 inch for the tank wall in the area of 0 to 8 feet from the bottom, and 0.25 inch for the tank wall in the area from 8 to 24 feet from the bottom. The thicknesses listed above include a 1/8-inch corrosion allowance. The tank shells will be constructed in accordance with API 650 (10th edition) section 3.6.4.7 and Appendix F. The maximum volumetric and weight capacity of the tanks is 337,800 gallons and 3,150,588 pounds, respectively. The maximum total volumetric system capacity is 1,013,400 gallons. The tanks will be designed in accordance with the details provided in Drawing 24852-RD-M6-B04-M0016, M0017 and M0018.

The tanks maximum design pressure and temperature will be 12/-4.5 inches water column and 230 degrees Fahrenheit, respectively. Each tank will be fitted with 2 tank agitators.

Additional items included in the tank design consist of a HHLL (High-High Liquid Level) control set at 23 feet.

All three 30-day tanks will be vented via a common manifold to the carbon filtration system before discharge to the atmosphere.

Ancillary Piping – Ancillary piping associated with the 30-day storage tanks shall be constructed in accordance with the design details that will be submitted in accordance with Condition I.J. of this Permit.

- III.A.2. Biotreatment Area (BTA) Tank Farm - The BTA Tank Farm will be generally constructed as described below. Additional design details and construction specifications and operating details for the BTA Tank Farm shall be provided in accordance with Condition I.J. of this Permit.

The BTA Tank Farm is depicted on the site plot plan (Drawing Number 24852-RD-P1-000-P0030 to Attachment E). When constructed, the BTA Tank Farm will contain 36 above ground tanks of three different sizes and a total capacity of 1,209,564 gallons. The bioreactor tanks will utilize an aerobic microbiological treatment in fixed film reactors called immobilized cell bio-reactors (ICBs). There will be 6 modules that include ancillary feed and effluent tanks, pumps, and equipment. There are 6 feed tanks, and 6 effluent tanks. Each module has four bioreactor units and each bioreactor unit has three reactor stages in series. All tanks vent to a bioreactor off gas treatment system (OTS). Table III.A.2-1 details the specifications for the tanks in the BTA Tank Farm. “To be provided” specifications will be submitted in accordance with Condition I.J. of this Permit. Table III.A.2-2 specifies the BTA Tank Farm Design Drawings.

Table III.A.2-1

Tank characteristics	ICB Feed Tanks	Immobilized cell Bio reactor tanks	ICB Effluent tanks
Number of Tanks	6	24	6
Composition of the tanks and design specifications	Carbon steel ASTM A36 API 620(mechanical) IBC, Section 1622 (seismic design code) ¾ inch anchor rods 6 ½ inch deep	Carbon steel ASTM A36 Design codes manufactures standard IBC section 1622 (seismic design code)	Carbon Steel ASTM A36 API 620 (mechanical design code) IBC section 1622 (seismic code) 4 ¾ inch anchor rods 6 ½ inches
Ancillary equipment	ICB feed pumps ICB feed exchanger (shell and tube heat exchanger)	ICB recycle pumps	ICB effluent pumps there are 24 bioreactor transfer pumps and the design flow rate is 68 gallons per minute
Wall Thickness	1/16 inch	To be provided	To be provided
Maximum operating capacity	To be provided	To be provided	To be provided
Total Capacity	2,590 gallons each Vertical tank 7 feet in diameter and 9 feet high	49,031 gallons each 11.5 feet wide 57 feet long 10 feet high	2,880 gallons each Vertical tank 7 feet in diameter 10 feet high
Mechanical design codes	API 620	To be provided	API 620
Seismic design codes	To be provided	IBC Section 1622	To be provided
Corrosion allowance	1/16 inch	1/16 inch	1/16 inch

Table III.A.2-1			
Tank characteristics	ICB Feed Tanks	Immobilized cell Bio reactor tanks	ICB Effluent tanks
Secondary Capacity	56,498 gallons north area which includes feed, ICB, and effluent tanks, south area 70,038 gallons	To be provided	To be provided

Table III.A.2-2	
Drawing Number	Title
24852-RD-M5-B09-B0001	Process Flow Diagram Biotreatment
24852-RD-M6-B09-M0001	Piping & Instrument Diagram Biotreatment System ICB Feed Tank Module 1
24852-RD-M6-B09-M0002	Piping and Instrument Diagram Biotreatment System ICB Feed Pump- Module 1
24852-RD-M6-B09-M0003	Piping & Instrument Diagram Biotreatment System ICB Feed Heater Module 1
24852-RD-M6-B09-M0005	Piping & Instrument Diagram Biotreatment System
24852-RD-M6-B09-M0006	Piping & Instrument Diagram Biotreatment System ICB 0102-Module 1
24852-RD-M6-B09-M007	Piping & instrument Diagram Biotreatment System ICB 0103-Module 1
24852-RD-M6-B09-M0008	Piping & Instrument Diagram Biotreatment System ICB 0104-Module 1
IC24852-RD-M6-B09-M0009	Piping & Instrument Diagram Biotreatment System ICB Off-gas Header
24852-RD-M6-B09-M0010	Piping & Instrument Diagram Biotreatment System ICB Effluent Tank
24852-RD-M6-B09-M0011	Piping & Instrument Diagram Biotreatment System ICB Effluent Pump
24852-RD-M5-B11-B0001	Process Flow diagram Bioreactor Offgas Treatment
24852-RD-M5-B20-B001	Process Flow Diagram Offgas Treatment System

III.B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

III.B.1. Specific prohibitions applicable to all tanks:

III.B.1.a. Wastes or wastes and materials which are incompatible shall not be placed in the same tank. Wastes or materials are incompatible if upon or after mixing they generate extreme heat or pressure, cause fire or explosion, cause violent reactions, produce uncontrolled toxic mists, fumes,

dusts, or gases, produce uncontrolled flammable fumes or gases, or damage the integrity of the tank.

III.B.1.b. Waste chlorinated solvents, and hypochlorite based decontamination solutions, or other liquids found to negatively impact the Near Real Time Monitors (the “MINICAMs”), are not allowed to be placed in the tanks at PCAPP.

III.B.2. 30-day Hydrolysate Storage Tanks

III.B.2.a. The following wastes are approved for storage in the 30-day Hydrolysate Storage Tanks;

Table III.B.2.a.			
Storage Tank System. Location, and No. of Associated Tanks	Hazardous Waste Type	Applicable Waste Code	Maximum Volume of Waste and Size of Tank
30-Day Hydrolysate Storage Tanks	Hydrolysate and/or liquids collected from secondary containment for the 30-Day Hydrolysate Tanks	K901, D002, D004 – D011, D019, D022, D028, D034, D039, D040, D043	337,800 gallons/each

III.B.2.b. The Permittees shall not store waste or other materials in the tanks which after mixing, have a specific gravity greater than 1.27.

III.B.2.c. The Permittees shall not place ignitable or reactive wastes into the 30-day Hydrolysate Storage Tanks.

III.B.3. Biotreatment Area Tanks

III.B.3.a. The following wastes are approved for storage in the Biotreatment Area Tanks:

Table III.B.3.a.		
Storage Tank System. Location, and No. of Associated Tanks	Hazardous Waste Type	Applicable Waste Codes
ICB Feed Tanks 6 ICB tanks 24 ICB effluent tanks 6	Feed originates from the Agent Hydrolysate Hold tanks	D002, D004-D011, D019, D022, D028, D034, D039, D040, D043, K901

III.B.3.b. Reserved

III.C. SECONDARY CONTAINMENT

- III.C.1. The Permittees shall operate the secondary containment system for each tank and/or tank system in accordance with 6 CCR 1007-3 §264.193 and the terms and conditions of this Permit.
- III.C.2. The concrete containment systems underlying the 30-day Hydrolysate Storage Tanks and the BTA Tanks shall be sufficiently impervious to contain leaks, spills, and accumulated precipitation until detected and removed. In addition, the Permittees shall maintain a chemical resistant impervious coating on the concrete of the secondary containment and repair any detected cracks in the secondary containment. Design specifications for the coating and maintenance and repair procedures shall be as described in the Inspection Plan to be provided in accordance with Condition I.J of this Permit.
- III.C.3. The uncovered secondary containment systems for the 30-day Hydrolysate Storage Tanks and the BTA Tanks shall be maintained to allow sufficient capacity to contain at least the volume of one tank plus the 25-year, 24-hour storm event. In order to meet this requirement, the secondary containment for the 30-day Hydrolysate Storage Tanks shall be a minimum of 424,842 gallons. In order to meet this requirement, the secondary containment for the North BTA Tanks shall be a minimum of 56,498 gallons and for the South BTA Tanks shall be a minimum of 70,038 gallons.
- III.C.4. The Permittees shall comply with the requirements of 6 CCR 1007-3 §264.193 for ancillary equipment of all tank systems.
- III.C.5. All spills or leaks at the permitted tank storage units must be cleaned up within 24 hours of detecting. Any removed material from the collection systems must be characterized, and if hazardous waste, managed appropriately (i.e. recycled, stored, treated or disposed of according to this Permit, or shipped off-site to a designated hazardous waste facility).

III.D. DESIGN AND CONSTRUCTION STANDARDS

The Permittees shall ensure that the foundation, structural support, seams, connections, and pressure controls shall be adequately designed. The Permittees shall also ensure that the tank system has sufficient structural strength, waste compatibility, and corrosion protection that it will not collapse, rupture or fail. [6 CCR 1007-3 §264.192]

- III.D.1. Design Standard for Tanks and Ancillary Equipment

The Permittees shall obtain a written assessment, reviewed and certified by an independent, qualified professional engineer registered in Colorado, pursuant to 6 CCR 1007-3 §264.192, attesting that the tank system has sufficient structural integrity and is acceptable for the storing of the agent hydrolysate.

- III.D.2. Pursuant to 6 CCR 1007-3 §264.192, the Permittees shall ensure that the written assessment includes at a minimum, the results of the inspections of the following information:
- III.D.2.a. All design standards for the construction of the tanks;
 - III.D.2.b. All design standards for the construction of the ancillary equipment;
 - III.D.2.c. Hazardous characteristics of the waste (s) to be handled;
 - III.D.2.d. The Permittee will provide external corrosion protection for aboveground steel-composition storage tanks consisting of a concrete pad and/or concrete-construction secondary containment to provide isolation from the corrosion effects from contact with soils and/or groundwater, an exterior coating consisting of an appropriate primer and paint to be maintained for the active life of the facility, an appropriate corrosion allowance in the wall thickness of the steel tanks, and a corrosion surveillance program that will be described in the Inspection and Monitoring Plan to be provided to the Division in accordance with Condition I.J. of the Permit. At a minimum, the Inspection and Monitoring Plan must incorporate internal corrosion protection/inspection elements and methods for the tanks to monitor internal corrosion and wall thickness/erosion. Maintenance and inspection of the tanks, including draining any accumulated water that may be in contact with the base of the tanks, will be conducted within 24 hours of discovery.
 - III.D.2.e. Design considerations to ensure that the tank foundations will maintain the full load;
 - III.D.2.f. Design considerations to ensure that tank foundations will be anchored to prevent floatation or dislodgement where the tank is placed in the saturated zone, or is located within a seismic fault zone; and

III.D.2.g. Design considerations that the tank system will withstand the effects of frost heave.

III.E. INTEGRITY ASSESSMENTS

III.E.1. The Permittees shall insure that proper handling procedures are taken during installation to prevent damage to the tanks and any of their system components.

The Permittees shall have the tank system inspected by either an independent, qualified installation inspector, or an independent, qualified registered Colorado professional engineer. Both the inspector and/or engineer shall be trained and experienced in the proper installation of tank systems and/or components. The system shall, at a minimum, be inspected for the following conditions:

- Weld Breaks;
- Punctures;
- Scrapes of protective coatings;
- Cracks;
- Corrosion;
- Structural Damage;
- Inadequate construction/installation.

If the inspection results indicate that any of the above discrepancies exist, the Permittees shall remedy all such discrepancies prior to placing the tank systems in use. [6 CCR 1007-3, §264.192(b)]

III.E.2. System Performance Testing for 30 – Day Hydrolysate Tank System

The Permittees shall test all new tanks and ancillary equipment for tightness prior to placing the system or component in use. If the test indicates that the system is not tight, the Permittees shall perform all repairs necessary to remedy the leak(s) in the system prior to placing the tank system in use. [6CCR 1007-3 §264.192(d)]

III.E.3. Installation Requirements

The Permittees shall ensure the installation requirements of 6 CCR 1007–3, §264.192 are met as follows:

III.E.3.a. Support - All ancillary equipment shall be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction. [6 CCR 1007-3 §264.192]

III.E.3.b. The Permittee will provide for the minimal design aspects described under condition III.D.2.d of the permit to ensure that the aboveground steel-composition storage tanks at PCAPP will not collapse, rupture or fail as a result of corrosion.

III.E.3.c. Certification – The Permittees shall obtain and maintain at the facility written statements by those persons required to certify the design of the tank system and to supervise the installation of the tank system as described in Permit Conditions III.D.1 and III.E.1 of this Permit.

The written statements shall attest that the tanks system was properly designed and installed. Any repairs as noted in Permit Conditions III.D.1 and III.E.1 shall also be noted in the written statements. The written statements shall also include the certification statement as required by 6 CCR 1007-3 §100.12.

III.E.4. A corrosion surveillance program will be used to assess potential corrosion and deterioration of all the tanks described under this section of the permit. The corrosion surveillance program will be described in the Monitoring Plan that shall be submitted in accordance with Condition I.J. of this Permit.

III.F. OPERATING REQUIREMENTS

III.F.1. The Permittees shall not place hazardous wastes in any tank system if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.

III.F.2. Hydrolysate 30-day storage tanks

III.F.2.a. The Hydrolysate 30-day storage tanks are equipped and maintained with a high Liquid level alarm that will notify operators when the tank level is at 20'. The tank level switch High-High (LSHH) is set at 23 feet and will automatically shut off the feed to the tank when a liquid level of 23' is reached. A programmable logic controller will open the inlet valve to the next tank once the LSHH is triggered.

- III.F.2.b. Level indicators that can be visually read in the field will indicate the depth of waste in each tank and will also have a remote readout in the control room.
- III.F.2.c. Pumps will be used to transfer the wastes to or from any of the tanks. All valves associated with transferring wastes to or from the tanks will remain in the closed position unless waste transfers are taking place. All valves associated with waste storage tanks will be operated in a manner to prevent releases to the environment.
- III.F.2.d. The Permittees will record the liquid level and the volume of hazardous waste contained in each tank in the Operating Record as described in the Inspection Plan that will be submitted in accordance with Condition I.J. of this Permit.
- III.F.2.e. Potential deterioration of the tanks shall be monitored using a corrosion surveillance program to be described in the Monitoring Plan that will be provided in accordance with Condition I.J. of this Permit.
- III.F.2.f. The Permittees will monitor potential corrosion of the hazardous waste tanks described under this section of the permit under the Monitoring Plan that will be submitted to the Division in accordance with Condition I.J. of the permit. The Monitoring Plan will describe the corrosion surveillance program that will be implemented by the Permittees to monitor corrosion of tank wall thickness and the methodology and rationale used to support the program. If any tank's thickness is below the required tank safe design value (a value to be established for each tank in the Monitoring Plan), the tank shall be considered unfit for use, and removed from service immediately, in accordance with Condition III.E of this Permit.
- III.F.2.g. If a tank system or component is found to be unfit for use as a result of the integrity assessment or any inspection, the Permittees shall comply with Condition III.G of this Permit and notify the Department, in accordance with Condition III.I of this Permit.

- III.F.3 The Permittees shall use appropriate controls and practices to prevent spills and overflows from any tank or containment system.

III.G. RESPONSE TO LEAKS OR SPILLS

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 use, the Permittees shall remove the system from service immediately and complete the following minimum actions and any additional unit specific measures described in the Contingency Plan that will be submitted in accordance with Condition I.J. of this Permit:

- III.G.1. Stop the flow of hazardous waste into the system and inspect the system to determine the cause of the release. [6 CCR 1007-3 §264.196(a)]
- III.G.2. Remove as much waste and accumulated precipitation from the primary containment portions of the tank system within 24 hours of the detection of the leak as is necessary to prevent further release, and to allow inspection and repair of the system. For secondary containment portions of the tank system all released materials must be removed from the secondary containment system within 24 hours. If the Permittees find that it will be impossible to meet this time period, the Permittees shall notify the Department and demonstrate that the longer time period is required. The collected material must be managed in accordance with Conditions II.C and the Waste Analysis Plan, Attachment D to this Permit [6 CCR 1007-3 §264.196(b)]
- III.G.3. The Permittees shall 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. [6 CCR 1007-3 §264.196(c)]
- III.G.4. The Permittees shall repair all tank systems at the facility as follows or close the tank system as described in the Closure Plan that will be submitted in accordance with Condition I.J. of this Permit.
- III.G.4.a. For a release caused by a spill that has not damaged the integrity of the system, the Permittees shall remove the released waste and make necessary repairs before returning the tank system to service.
- III.G.4.b. For a release caused by a leak from the primary tank system to the secondary containment system, the Permittees shall repair the primary system prior to returning it to service.

- III.G.4.c. For a release to the environment caused by a leak from a portion of the tank system that does not have secondary containment, and can be visually inspected, the Permittees shall repair the tank system before returning it to service.
- III.G.4.d. If the Permittees replace a component of the tank system to eliminate the leak, that component must satisfy the requirement for new tank systems or components in 6 CCR 1007-3, §264.192 and §264.193. [6 CCR 1007-3 §264.196(e)]
- III.G.5. If the Permittees have repaired a tank system in accordance with Permit Condition III.G., and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary or secondary containment vessel), the tank system must not be returned to service unless the Permittees have obtained a certification by an independent, qualified, Colorado Registered Professional Engineer in accordance with §100.12(d), that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Department within seven days after returning the tank system to use. [6 CCR 1007-3 §264.196(f)]

III.H. INSPECTION SCHEDULES AND PROCEDURES

- III.H.1. The Permittees shall inspect the tank systems, in accordance with the Inspection Plan that shall be submitted in accordance with Condition I.J. of this Permit [6 CCR 1007-3 §264.195(a)]
- III.H.2. The Permittees shall inspect and test the overfill controls (e.g. level indicators, high level alarms), as described in the Monitoring Plan that shall be provided in accordance with Condition I.J. of this Permit.
- III.H.3. The Permittees shall conduct a corrosion surveillance program as described in the Monitoring Plan that shall be submitted in accordance with Condition I.J. of this Permit.
- III.H.4. The Permittees shall conduct an internal tank inspection as described in the Monitoring Plan that shall be provided in accordance with Condition I.J. of this Permit.
- III.H.5. The Permittees shall inspect the tank system as described in the Inspection Plan that shall be provided in accordance with Condition I.J. of this Permit.

- III.H.6. The Permittees shall record the results of all tank inspections and any corrective actions performed to address observed problems in the Operating Record for the facility. [6 CCR 1007-3 §264.195(d)]

III.I. RECORD KEEPING AND REPORTING

- III.I.1. The Permittees shall report to the Director, within 24 hours of detection, when any release to the environment from a tank system, ancillary equipment, piping, or secondary containment system occurs except as provided in 6 CCR 1007-3, §264.196(d)(2). If the Permittees have reported a release pursuant to 40 CFR Part 302, that report will satisfy the requirements of Permit Condition III.I.1. [6 CCR 1007-3 §264.196(d)]

- III.I.2. Within 30 days of detecting a release to the environment from the tank system or secondary containment system, the Permittees shall report the following information to the Department:

- Likely route of migration of the release
- Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);
- Results of any monitoring or sampling conducted in connection with the release. If the Permittees find it will be impossible to meet this time period, the Permittees should provide the Department with a schedule of when the results will be available. This schedule must be provided before the required 30-day submittal period expires;
- Proximity of down gradient drinking water, surface water, and populated areas; and
- Description of response actions taken or planned. [6 CCR 1007-3 §264.195(d)(3)]

- III.I.3. The Permittees shall submit to the Department all certifications of major repairs to correct leaks within seven days from returning the tank system to use. [6 CCR 1007-3 §264.196(f)]

- III.I.4. The Permittees shall obtain, and keep on file at the facility the written statements by those persons that certify or recertify the design and installation of tank systems. [6 CCR 1007-3 §264.192(g)]
- III.I.5. The Permittees shall keep on file at the facility the written statements by persons required to certify the design of the tank system and supervise the installation of the tank system. [6 CCR 1007-3, §264.192(a) & (g)].
- III.I.6. The Permittees shall maintain at the facility a record of the integrity test results conducted in accordance with Condition III.E of this Permit.
- III.I.7. The Permittees shall place the results of all waste analyses and trial tests, and any other documentation showing compliance with the requirements of Permit Condition III.K and 6 CCR 1007-3, §264.17(b and c) and §264.199 in the facility operating record.

III.J. CLOSURE

At closure of the tank systems identified in Permit Condition III.A., the Permittees shall comply with 6 CCR 1007-3 §264.197 and follow the procedures as described in the Closure Plan that will be submitted in accordance with Condition I.J. of this Permit.

III.K. SPECIAL PROVISIONS FOR IGNITABLE OR REACTIVE WASTES

The Permittees shall not place ignitable or reactive waste in the tank systems described under this Part of the Permit.

III.L. SPECIAL TANK PROVISIONS FOR INCOMPATIBLE WASTES

The Permittees shall not place incompatible wastes, or incompatible wastes and materials, in the same tank system or same secondary containment system.

III.M. AIR EMISSION STANDARDS

The Permittees shall control air pollutant emissions from each tank under this Part of the Permit in accordance with standards specified in 6 CCR 1007-3 §264.1084 and §264.1087.

- III.M.1. The Permittees shall control air emissions from each of the tanks in accordance with the applicable provisions of 6 CCR 1007-3 §264.1082, §264.1084 and §264.1087.

- III.M.1.a. The Permittees shall control air emissions in accordance with the Level I controls and shall maintain the following management activities:
 - III.M.1.a.i. The maximum organic vapor pressure limit for the tank is 5.2 kPa.
 - III.M.1.a.ii. The hazardous waste in the tank is not heated by the Permittees to a temperature that is greater than the temperature at which the maximum organic vapor pressure of hazardous waste is determined for the purpose of complying with Permit Condition III.M.1.a.i).
 - III.M.1.a.iii. The hazardous waste in the tank is not treated by the Permittees using a waste stabilization process, as defined by 6 CCR 1007-3 §265.1081.
- III.M.1.b. The Permittees, using Tank Level 1 controls, shall meet the following requirements:
 - III.M.1.b.i. The Permittees shall determine the maximum organic vapor pressure for each hazardous waste to be managed in each tank, before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in 6 CCR 1007-3 §264.1083(c). Thereafter, the Permittees shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level equal to or greater than the maximum organic vapor pressure specified in Permit Condition III.M.1.a.i.
 - III.M.1.b.ii. The tank shall be equipped and maintained with a fixed roof design meeting the following requirements:
 - III.M.1.b.ii.A. The fixed roof, which is an integral part of the tank, forms a continuous barrier over the entire surface area of the hazardous waste in the tank.

III.M.1.b.ii.B. The fixed roof shall be maintained such that there are no visible cracks, holes, gaps, or other open spaces between the roof section joints or between the roof edge and the tank wall.

III.M.1.b.ii.C. Each opening in the roof and any manifold system associated with the fixed roof shall be either equipped with a closure device operated in accordance with 264.1084(c)(2)(iii)(A) or connected by a closed vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and it shall be operating whenever hazardous waste is managed in the tank, except as provided below:

III.M.1.b.ii.C.1. During periods when it necessary to provide access to the tank for performing the activities of Permit Condition III.M.1.b.ii.C.2., venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the Permittees shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

III.M.1.b.ii.C.2. During periods of routine inspection, maintenance, or other activities needed for normal operations, or for removal of accumulated

sludge or other residues from
the bottom of the tank.

III.M.1.c. Whenever a hazardous waste is in a tank, the fixed roof shall be intact and each closure device secured in the closed position except as follows:

III.M.1.c.i. Opening of the closure device is allowed at the following times:

III.M.1.c.i.A. To provide access to the tank for performing routine inspection, maintenance or other activities needed for normal operations. Following completion of the activity, the Permittees shall promptly secure the closure device in the closed position.

III.M.1.c.i.B. To remove accumulated sludge or other residues from the bottom of the tank.

III.M.1.c.ii. Opening of the pressure/vacuum relief valve which vents to the atmosphere is allowed only during non-normal (e.g. emergency over/under pressure events) for the purpose of maintaining tank integrity through pressure equalization in accordance with the tank design specifications. The valve is designed to operate with no detectable organic emissions when the device is in the secure, closed position during which time the tank is vented through the dedicated activated carbon filter system. The conditions and settings at which the device opens shall be as established in Permit Condition III.A.1.

III.M.1.c.iii. Opening of a safety device, as defined in 6 CCR 1007-3 §265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

III.M.1.d. The Permittees shall inspect the air emission control equipment in accordance with the following requirements:

III.M.1.d.i. The fixed roof and its closure devices shall be visually inspected by the Permittees, as specified in the Inspection Plan that shall be submitted in

accordance with Condition I.J. of this Permit, to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

III.M.1.d.ii. The Permittees shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank accepts hazardous waste. Thereafter, the Permittees shall perform the inspections at least once every year except under the special conditions provided for in accordance with Condition III.M.4 of this Permit.

III.M.1.d.iii. In the event a defect is detected, the Permittees shall repair the defect in accordance with the requirements of Permit Condition III.M.3.

III.M.2. The Permittees shall transfer hazardous waste to a Tank in accordance with the following requirements:

III.M.2.a. Transfer of hazardous waste to the tank from another Tank shall be conducted using continuous hard piping system that does not allow exposure of the hazardous waste to the atmosphere.

III.M.3. The Permittees shall repair each defect detected during an inspection performed in accordance with the requirements as follows:

III.M.3.a. The Permittees shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in Permit Condition III.M.2.b.

III.M.3.b. Repair of a defect may be delayed beyond 45 calendar days if the Permittees determine that repair of the defect requires emptying or temporary removal from service of the tank

and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the Permittees shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

III.M.4. Following the initial inspection and monitoring of the cover as required by the Permit Condition III.M.1.d.ii., subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

III.M.4.a. In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions then the Permittees may designate a cover as an “Unsafe to inspect and monitor cover” and comply with all of the following requirements:

III.M.4.b. Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

III.M.4.c. Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in Permit Condition III.M.1.d as frequently as practicable during those times when a worker can safely access the cover.