

### 5.3.2 Tank Level 1 Controls

A tank is allowed to use the Level 1 controls if it does not exceed the maximum organic vapor pressure for that tank design capacity as shown in the Table presented above. The hazardous waste in the tank can not be heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste was determined. The hazardous waste in the tank also can not be treated by the owner or operator using a waste stabilization process or other exothermic process. The tank level 1 control requirements consist of a fixed roof meeting appropriate design, operation, inspection and recordkeeping requirements.

The fixed roof and its closure devices must be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the roof or may be an integral part of the tank structural design. The fixed roof must be designed and installed so there are no visible cracks, holes, gaps or other open spaces between roof section joints or between the interface of the roof edge and tank wall. Each opening in the fixed roof must be either equipped with a closure device or connected by a closed-vent system that is vented to a control device. If the opening is equipped with a closure device, it must be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the opening and the closure device. If the opening is connected to a closed-vent system vented to a control device, the control device must remove or destroy organics in the vent stream, in accordance with the requirements for control devices in 264.1033 and 265.1033 and it must be in operation any time the hazardous waste is managed in the tank.

The fixed roof and all closure devices must be constructed of suitable materials that will minimize exposure of the hazardous waste to the atmosphere and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

*Inspector's Tip:*

*Results of an IDEM inspection program reveal a high rate of leakage from tank control devices and vents regulated under Subpart CC.*



*Photo of an unsecured sampling port hatch on a level 2 tank.*

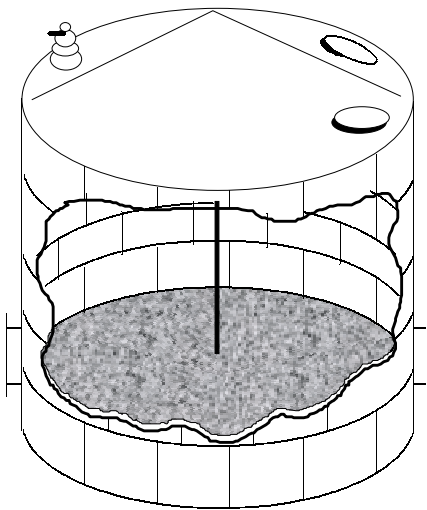
*Additional guidance on conservation vents can be found in [Guidance Document for RCRA Hazardous Waste Air Emission Standards Under 40 CFR Parts 264 and 265: Implementation of Subpart CC Standards for Pressure Relief Device Requirements for Tanks Using Level 1 Controls](#).*

The closure devices must be secured in the closed positions at all times hazardous waste is in the tank. Opening of closure devices or removal of the fixed roof is allowed to provide access to the tank for performing routine inspection, maintenance, other activities needed for normal operations or to remove accumulated sludge or other residues from the bottom of the tank. The owner or operator must promptly secure the closure device in the closed position or reinstall the cover to the tank, once the activity was completed.

Tank Level 1 controls allow the opening of a spring-loaded pressure-vacuum relief valve, conservation vent or similar type of pressure relief device which vents to the atmosphere in order to maintain the tank internal pressure in accordance with the tank design specifications. The pressure relief device must be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens must be established for the device to remain in the closed position when the tanks internal pressure is within the internal pressure operating range. The internal pressure operating range must be determined by the owner or operator based on the tank manufacturers recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive or hazardous materials. An example of normal operating conditions that may require a device to open is during loading operations when the tank internal pressure will exceed the internal pressure operating range established for the tank. Another example of when pressure relief devices may be required to function is as a result of diurnal temperature fluctuations with hot daytime temperatures and cooler nighttime temperatures. Opening of a safety device is allowed at any time conditions require doing so in order to avoid an unsafe condition.

The owner or operator must inspect the air emission control equipment to ensure it is installed and operating correctly. The fixed roof and its closure devices must be visually inspected by the owner or operator 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. The owner or operator must perform an initial inspection of the fixed roof and its closure devices prior to using a tank subject to

*For more information on Tank requirements under Subparts BB and CC refer to the [Takin in Tanks](#) presentation from the March 2002 EPA Region 4 RCRA Organic Air Emission Standards Permit and Compliance Training.*



Subpart CC and on an annual basis. In the event that a defect is detected, the owner or operator must repair the defect within 45 calendar days of detection. A first attempt at repair must be made no later than five calendar days from detection. Repair delays are allowed if the owner or operator determines that the 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 managed if the tank stops operation. The defects must be repaired before the process or unit resumes operation.

Following the initial inspection and monitoring of the cover as required by the Subpart CC regulations, subsequent inspection and monitoring must be performed annually. Inspection and monitoring may be performed at intervals longer than 1 year when inspecting or monitoring the cover would expose a worker to unsafe conditions. If unsafe conditions exist then the owner or operator may designate a cover as an unsafe to inspect and monitor cover. The owner or operator must prepare a written explanation stating the reasons why the cover is unsafe to visually inspect or monitor. A written plan and schedule for inspection and monitoring of the cover must be also be prepared.

When a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor only these portions of the tank cover and those connections to the tank that are located on or above the ground surface. General tank requirements contained in Subpart J of 40 CFR 264 and 265 contain additional tank requirements not related to Subpart CC standards, such as secondary containment or leaks and spills and other operational requirements.