



## Low Level Piping Containment Sump Testing

This alternative liquid testing method can be used to meet the periodic tightness test requirement of piping containment sumps used for interstitial monitoring (STP, UDC, transition, etc.) that must be conducted every 3 years. The following conditions must be met and procedures followed:

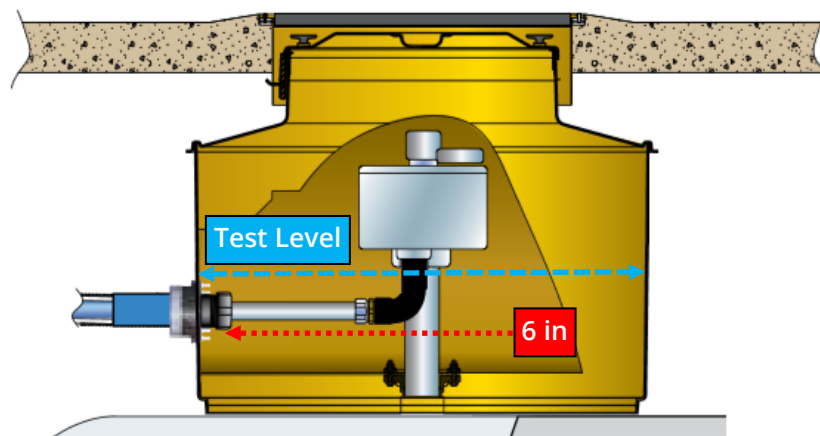
### Required Conditions

Containment sump sensors and monitoring equipment must meet the following requirements:

1. Sensors must have received third-party certification and be approved by the National Work Group for Leak Detection Evaluations (NWGLDE).
2. Sensors must be included in all sumps.
3. Sensors must have a liquid activation height of less than 2 inches per manufacturer specifications.
4. Sensors must be located in the lowest point of the sump where liquids may accumulate.
5. Sensor activation must cause a positive shutdown of **all** pumping systems in addition to any alarms.
6. Sensors and console/monitoring equipment must be tested annually for functionality according to manufacturer requirements, PEI RP1200-17, or another approved method. This test must show that the liquid activation height is less than 2 inches and that all associated alarms and positive shutdowns are functional.

### Minimum Testing Level

The required minimum testing level for containment sumps is **6 inches**. If liquid at this level is in contact with a penetration point, the level must be raised enough to cover the entire penetration.



## Containment Sump Inspection

Before testing begins, inspectors must check the condition of containment sumps as follows:

1. Check the containment sump for liquid and determine if any regulated substances are present that could indicate a release of product.
  - a. If product is found, OPS requirements for release identification and reporting must be followed.
  - b. Remove and properly dispose of any liquid or debris.
2. Verify that the sump sensor is installed correctly and is located in the lowest point of the sump where liquids may accumulate.
3. Inspect the entire containment sump for damage and determine if cracks, holes, or loose/deteriorated connections, fittings or penetration components exist. All damage must be repaired in accordance with OPS requirements.

***If damage is identified that visually indicates the sump is not liquid tight in the portion of the sump at or below the minimum testing level, this is a failed test that must be documented and reported by calling the OPS Technical Assistance Line at 303-318-8547.***

## Containment Sump Testing

The sump sensor and console/monitoring equipment must be tested for functionality according to manufacturer requirements, PEI RP1200-17, or another approved method to show that the liquid activation height is less than 2 inches and that all associated alarms and positive shutdowns are functional. This test can be performed as part of the containment sump test. If the sensor is removed and tested in a separate container, it must be reinstalled before proceeding with the following:

1. Secure the measuring device vertically at the lowest point in the sump.
2. Fill the containment sump with water to a level where the sensor activates, but no more than 2 inches.
  - a. Verify that a positive shutdown of all pumping systems and expected alarms were activated.
  - b. If the sensor did not activate, this is a failed test that must be documented. The sump must be emptied, corrections made, and this step repeated.
3. Continue filling the containment sump to the required minimum testing level.
4. Allow at least 5 minutes for any changes to the water level to occur due to settling or sump deflection.
5. Measure and record the initial water level and current time.
6. Leave the test water undisturbed for 1 hour.
7. Measure and record the final water level and current time.
8. Compare the initial and final water level measurements.

***If the level changed by more than 1/8 inch, this is a failed test that must be documented and reported by calling the OPS Technical Assistance Line at 303-318-8547.***

9. Remove the test water and measuring device from the sump, and verify that the sump sensor remains properly installed.

## Inspector Requirements

Persons performing this inspection must meet one of the following requirements:

1. Have installer training certification supplied by the manufacturer for the containment sumps, sump sensors, and monitoring equipment being inspected and tested. If the manufacturer does not certify its installers of the equipment, this option may not be used.
2. Possess a certificate issued by PEI indicating completion of the RP1200-17 online test (available at [www.pei.org](http://www.pei.org)).
3. Have training or certification that has been reviewed and approved by OPS.