FREQUENTLY ASKED QUESTIONS about
Secondary Containment Operation and Maintenance Requirements for UST Systems and Components Installed or Replaced after November 1, 2007

These frequently asked questions address secondary containment monitoring and testing requirements for UST systems or UST system components installed on or after November 1, 2007. These procedures must be followed to comply with North Carolina's UST rules.

What are the Overfill Requirements?

- ☐ Check the overfill prevention equipment annually for operability, proper operating condition, and calibration in accordance with manufacturer's written guidelines and document on UST-22A form, *Annual Overfill Prevention Operability Check*.

What are the Spill Bucket Requirements?

If monitored by a pressure, vacuum, or hydrostatic interstitial monitoring system:

- ☐ Monthly printout of sensor status for each sensor.
- ☐ Monthly print out of alarm history for each sensor.
- ☐ Test the operation of sensors annually and document on UST-22B form, *Annual Interstitial Sensor Operability Check*.

If monitored by a float sensor:

There must be a float sensor installed at the lowest point of the interstice within each spill bucket.

- ☐ Monthly printout of sensor status for each sensor.
- ☐ Monthly print out of alarm history for each sensor.
- ☐ Discriminating sensors need to be setup to detect/alarm with all liquids.
- ☐ Check the operation and calibration of sensors annually in accordance with manufacturer's written guidelines and document on UST-22B form, *Annual Interstitial Sensor Operability Check*.
- ☐ Test the integrity of the primary and secondary areas of the spill bucket in accordance with manufacturer's written instruction and PEI RP 100 every three (3) years and document the results on the UST-*23A* form, *Triennial UST Spill Bucket Integrity Testing*.

What are the Tank Leak Detection Requirements?

- ☐ Monthly printout of sensor status for each sensor.
- ☐ Monthly print out of alarm history for each sensor.
- ☐ Discriminating sensors need to be setup to detect/alarm with all liquids.
- ☐ Check the operation and calibration of sensors annually in accordance with manufacturer's written guidelines and document on UST-22B form, *Annual Interstitial Sensor Operability Check*.

If monitored by a liquid detecting sensor in a dry interstice:

- ☐ Monthly printout of sensor status for each sensor.
- ☐ Monthly print out of alarm history for each sensor.
- ☐ Discriminating sensors need to be setup to detect/alarm with all liquids.
- ☐ Check the operation and calibration of sensors annually in accordance with manufacturer's written guidelines. The installation and annual operability check (for the tank interstitial sensor in a dry interstitial space monitored only with an electronic liquid detecting sensor) shall also include documentation of the "Sensor Out" alarm and "Normal" conditions. Results must be documented on the UST-22B form, *Annual Interstitial Sensor Operability Check*.
- ☐ Liquid detecting sensor must be placed in the lowest point of the interstice and have a method to verify placement.
- ☐ Periodic integrity testing of the tank interstice shall be conducted in accordance with the appropriate third-party certification (0.10 gallon per hour leak rate) for the specified tank model (and product) being tested and written records maintained, as required by 15A NCAC 2N .0903. The periodic integrity testing must be conducted before UST system start-up, between 6 months and 1 year after start-up, and every three (3) years thereafter. Test results must be documented on the UST-23D form, *Triennial Interstice Integrity Testing*.

What are the Containment Sump Requirements?

If monitored by a pressure, vacuum, or hydrostatic interstitial monitoring system (double-wall sumps only):

- ☐ Monthly printout of sensor status for each sensor
- ☐ Monthly print out of alarm history for each sensor

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- ☐ Check the operation and calibration of sensors annually in accordance with manufacturer's written guidelines and document on UST-22B form, *Annual Interstitial Sensor Operability Check*.
- ☐ Visually inspect the sump annually for the presence of liquids and faulty equipment and document on UST-22C form, *Annual Containment Sump Visual Inspections*.

If monitored by a sump sensor:

There must be a sump sensor properly placed (within 2" of sump bottom) in each sump.

- ☐ Monthly printout of sensor status for each sensor.
- ☐ Monthly print out of alarm history for each sensor.
- ☐ Discriminating sensors need to be setup to detect/alarm with all liquids.
- ☐ Check the operation and calibration of sensors annually in accordance with manufacturer's written guidelines and document on UST-22B form, *Annual Interstitial Sensor Operability Check*.
- ☐ Visually inspect the sump annually for the presence of liquids and faulty equipment and document on UST-22C form, *Annual Containment Sump Visual Inspections*.
- ☐ Test the integrity of the sump in accordance with manufacturer's written instruction and PEI RP 100 every three (3) years and document on the UST-23B form, *Triennial UST Containment Sump/UDC Integrity Testing*.

What are the Piping Requirements?

- ➢ Single-walled flexible connectors and fittings associated with piping systems must be placed in containment sumps that are monitored and tested as described under containment sump requirements above.
- ➢ Suction piping, including European suction piping and siphon bars must meet the secondary containment monitoring and testing requirements below.

If monitored by a pressure, vacuum, or hydrostatic interstitial monitoring system:

- ☐ Monthly printout of sensor status for each sensor.
- ☐ Monthly print out of alarm history for each sensor.
- ☐ Discriminating sensors need to be setup to detect/alarm with all liquids.
- ☐ Check the operation and calibration of sensors annually in accordance with manufacturer's written guidelines and document on UST-22B form, *Annual Interstitial Sensor Operability Check*.
- ☐ For pressurized piping systems only: Test the automatic line leak detectors (ALLDs) annually for functionality using the manufacturer's written instructions.

If monitored by a sump sensor:

There must be a sump sensor properly placed (within 2" of sump bottom) in each sump, and the piping interstice must be open to each sump.

- ☐ Monthly printout of sensor status for each sensor.
- ☐ Monthly print out of alarm history for each sensor.
- ☐ Discriminating sensors need to be setup to detect/alarm with all liquids.
- ☐ Check the operation and calibration of sensors annually and document on UST-22B form, *Annual Interstitial Sensor Operability Check*.
- ☐ For pressurized piping systems only: Test the automatic line leak detectors (ALLDs) annually for functionality using the manufacturer's written instructions.
- ☐ Conduct a line tightness test of the primary piping every three (3) years using a 0.1 gallon per hour third party certified line tightness test and document on UST-23C form, *Triennial UST Piping Integrity Testing*.
- ☐ Test the integrity of the interstice in accordance with manufacturer's written instruction and PEI RP 100 every three (3) years and document on the UST-23C form, *Triennial UST Piping Integrity Testing*.

When should annual and triennial testing begin?

- ➢ The first tests must be conducted at the time of installation and then at annual or triennial intervals as required.

What records need to be available at the time of inspection?

- ☐ Monthly printouts of sensor status for each sensor for the past twelve (12) months.
- ☐ Monthly printouts of alarm history for each sensor for the past twelve (12) months.
- ☐ UST-22A form, *Annual Overfill Prevention Operability Check.*
- ☐ UST-22B form, *Annual Interstitial Sensor Operability Check*.
- ☐ UST-22C form, *Annual Containment Sump Visual Inspections*.
- ☐ UST-23A form, *Triennial UST Spill Bucket Integrity Testing*.*
- ☐ UST-23B form, *Triennial UST Containment Sump/UDC Integrity Testing*.*

- ☐ UST-23C form, *Triennial UST Piping Integrity Testing*.*
- ☐ UST-23D form, *Triennial UST Interstice Integrity Testing.**

* Not applicable if UST component monitored by pressure, vacuum, or hydrostatic methods.

What do I do if I have a Suspected Release?

- If any interstice sensor test fails, a suspected release report must be submitted to the UST Section on a UST-17A form, *UST Suspected Release 24 Hour Notice*.
- The suspected release must be investigated in accordance with 15A NCAC 2N .0603, and any defective equipment repaired in accordance with 15A NCAC 2N .0404/.0900.
- Results of the investigation must be submitted to the UST Section on a UST-17B form, *UST Suspected Release 7 Day Notice*.

What are the Common Problems?

- Piping interstice is not open to sumps.
- Air valves left on test boots and jumper tubing between test boots left connected after testing.
- Sensors in containment sumps not installed within 2 inches of sump bottom.
- Not submitting the UST-6B form, *Application to Install or Replace Underground Storage Tank system (Post Installation)*, after completion of installation.
- Only printing sensor status reports and not printing alarm history each month.
- Not documenting when sensor operability tests are conducted. Without documentation, alarms due to operability tests are assumed to be for leak detection failures.

Where can I find more information?

Find more information on underground storage tank requirements on the UST Section's website at: http://portal.ncdenr.org/web/wm/ust/