

## FREQUENTLY ASKED QUESTIONS

### NOVEMBER 1, 2007 PERFORMANCE STANDARDS FOR UST SYSTEMS

(This version of "Frequently Asked Questions" supercedes any prior version)

*Most recent questions are denoted by \*\* preceding the question.*

#### **SPILL CONTAINMENT**

**Question:** I want to place a regular (single-walled) spill bucket inside a containment sump at the fill end of the tank with a liquid sensor in the containment sump. Will this meet the new standards for secondary containment for spill buckets? *(January 18, 2008)*

**Answer:** Yes, this arrangement will meet the new performance standards.

**Question:** I have an existing UST system that has a broken spill bucket. Will the replacement spill bucket have to meet the new standards for secondary containment? *(January 18, 2008)*

**Answer:** Yes, the replacement spill bucket is required to meet the new performance standards including continuous interstitial monitoring using an electronic liquid level sensor or vacuum, pressure or hydrostatic interstitial monitoring methods.

**\*\*Question:** If I remove a single-walled spill bucket to work on that part of a UST system, can I reinstall the single-walled spill bucket or do I now have to install a new double-walled spill bucket that meets the requirements of 15A NCAC 2N .0900? *(July 2009)*

**\*\*Answer:** Yes, you can reinstall the same single-walled spill bucket on the UST following completion of the work on that part of your UST system. The spill bucket will not be required to meet the requirements of 15A NCAC 2N .0900 since it is not a replacement spill bucket.

**\*\*Question:** Can I repair a broken spill bucket? *(July 2009)*

**\*\*Answer:** Yes, you can repair the broken spill bucket so long as it is repaired in accordance with the spill bucket manufacturer's instructions or repaired using a kit manufactured by another company that is specifically made for repairing that particular model of spill bucket.

***UNDER DISPENSER CONTAINMENT***

**Question:** When is under dispenser containment (UDC) required? *(January 18, 2008)*

**Answer:** All new motor fuel dispenser systems must have UDC that meets the new performance standards including continuous interstitial monitoring using an electronic sump sensor or vacuum, pressure or hydrostatic interstitial monitoring methods. A motor fuel dispenser system is considered new when:

- A dispenser is installed at a location where there previously was no dispenser (new UST system location or new dispenser location at an existing UST system), or
- An existing dispenser is removed and replaced with another dispenser and the equipment used to connect the dispenser to the UST system is replaced. This equipment may include unburied flexible connectors or risers or other transitional components that are beneath the dispenser and that connect the dispenser to the piping.

*(Please note that any time piping or a piping component below or including a shear valve or vertical check valve at a dispenser is installed or replaced, UDC must be added.)*

**Question:** If a dispenser is knocked over by a careless driver or a severe storm, will the new or replacement dispenser have to meet the new performance standards? *(January 18, 2008)*

**Answer:** Yes, if the dispenser is replaced and the equipment used to connect the dispenser to the UST system is replaced.

**Question:** Will replacement of a shear valve or vertical check valve at an existing dispenser trigger the requirement for UDC? *(January 18, 2008)*

**Answer:** Yes, replacement of any piping component or component used to connect the dispenser to the piping including a shear valve or vertical check valve, will require installation of UDC.

**\*\*Question:** Will replacement of the top of a shear valve at an existing dispenser trigger the requirement for UDC? *(January 2008)*

**\*\*Answer:** No, replacement of just the top of a shear valve will not require installation of UDC. The same applies to a check valve that incorporates a shear valve with a replaceable top.

**Question:** If I already have a containment sump beneath the dispenser, but have to replace a piping component or transition component, what do I need to do? *(January 18, 2008)*

**Answer:** The UDC will have to meet the new performance standards. If not already doing so, you will have to begin continuous interstitial monitoring using an electronic sump sensor or vacuum, pressure or hydrostatic interstitial monitoring methods. If using an electronic sump sensor, you will have to perform an integrity test of the sump every three years. Also, you will have to visually inspect the sump annually.

**Question:** Will replacement of parts or maintenance items within a dispenser trigger the requirement for UDC? *(January 18, 2008)*

**Answer:** No, so long as you do not replace any piping component or component used to connect the dispenser to the piping. If you replace any component below and including a shear valve or vertical check valve, you are required to install UDC.

**Question:** To install UDC for an existing UST system that has single-walled rigid pipe, I have to cut the pipe outside of the area where the containment sump will be located, install the sump, and then splice in a section of new pipe. If I am only installing or replacing a dispenser, do I also have to replace the entire piping system with pipe meeting the new performance standards? *(January 18, 2008)*

**Answer:** No, you do not have to replace the entire piping system so long as you replace no more than two feet of piping outside the footprint of the containment sump. Metal components may not be used to connect spliced piping to existing piping unless they are placed in a monitored containment sump. All other piping replacements or repairs will require that the entire piping system be replaced with pipe meeting the new performance standards.

**Question:** I am installing a new fueling system with an underground tank and aboveground piping between the tank and the dispenser. Will UDC meeting the new performance standards be required? *(January 18, 2008)*

**Answer:** Yes, UDC is required. Since 10 percent or more of the volume of the fueling system is beneath the surface of the ground, the entire fueling system is considered a UST system. According to the new rules, when installing or replacing a UST system, UDC is required.

**Question:** How do I perform a hydrostatic test of a containment sump? *(January 18, 2008)*

**Answer:** Request written instructions from the manufacturer of the containment sump. If there are no written instructions, perform the hydrostatic test described in Petroleum Equipment Institute Recommended Practice 100 PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems." A copy can be obtained from PEI, PO Box 2380, Tulsa, OK 74101-2380.

**Question:** To meet the interstitial monitoring requirements for UDC, can I use a stand-alone liquid sump sensor that will cut off electrical power to the pump when liquid in the sump is detected? *(January 18, 2008)*

**Answer:** No, the new rules require a tank owner or operator to have a printed record of release detection monitoring results and an alarm history for each month. Therefore, the sump sensor must be connected to a leak detection console with a printer.

## **PIPING**

**Question:** If I have a failure of one piping system, do I have to replace all of the piping at my UST facility with piping meeting the new performance standards? *(January 18, 2008)*

**Answer:** No, only the failed piping system must be replaced with piping meeting the new performance standards including continuous interstitial monitoring using an electronic sump sensor or vacuum, pressure or hydrostatic interstitial monitoring methods.

**Question:** The new rules specify that “piping that is buried underground must be constructed with a device or method that allows it to be located once it is installed.” Can I use a surveyed site plan to meet this requirement? *(January 18, 2008)*

**Answer:** No, a surveyed site plan cannot be used to meet this requirement. The trace tape used by natural gas companies is the preferred method.

**Question:** Does the addition of a dielectric union to the dispenser end of a flex connector trigger the requirement to install a containment sump or UDC? *(January 18, 2008)*

**Answer:** No, piping is not being replaced, so there is no requirement to install a containment sump or UDC.

**Question:** If adding or replacing a siphon bar between manifolded tanks, will the siphon bar have to meet the new performance standards? *(January 18, 2008)*

**Answer:** Yes, a new or replacement siphon bar must meet the new performance standards. Containment sumps must be installed at each end of the siphon bar and the sumps must be continuously monitored using an electronic sump sensor or vacuum, pressure or hydrostatic interstitial monitoring methods.

**Question:** Is it necessary to upgrade other piping to the new performance standards, if only a siphon bar is installed or replaced? *(January 18, 2008)*

**Answer:** No, only the siphon bar must meet the new performance standards.

**\*\*Question:** I want to manifold the piping for two tanks together by installing new double-walled piping from one tank and connecting it to the existing single-walled piping system of a second tank via a tee within the STP containment sump for the second tank. Is this considered an extension of piping and will the entire piping system then have to meet the new performance standards? *(August 2008)*

**\*\*Answer:** Yes, adding new pipe to an existing piping system (double-walled or single-walled) requires the entire piping system (new and existing) to meet the new performance standards including secondary containment and interstitial monitoring.

**Question:** Can I patch a puncture in single-walled product line by adding a flex connector or fitting, or by splicing in a length of single-walled piping? *(January 18, 2008)*— See following question and answer.

**Answer:** ~~No, the entire piping run must be replaced with double-walled piping meeting the new performance standards. Any time a section of single-walled piping has to be replaced, the entire piping run must be upgraded to meet the new performance standards including double-walled construction and continuous interstitial monitoring using an electronic sump sensor or vacuum, pressure or hydrostatic monitoring methods.~~

**Question:** While performing site work in the vicinity of UST systems, single-walled fiberglass piping associated with one of the UST systems was accidentally damaged. Can the pipe be repaired or do I have to replace the entire piping system with a piping system that meets the new performance standards in 15A NCAC 2N .0900? *(February 2009)*

**Answer:** The operative rules that govern repairs and replacements are found in North Carolina rules 15A NCAC 2N .0200, .0400 and .0900. 15A NCAC 2N .0400 allows repairs of fiberglass piping (single-walled or double-walled) if they are done in accordance with manufacturer's specifications. Section .0200 defines "repair" as restoring a tank or UST system component that has caused a release. Section .0900 requires that replacement piping meet the requirements of .0900 (secondary containment and interstitial monitoring). Section .0200 defines replacement as removing a component of a UST system and installing another component in its place. DWM has reviewed these rules together and considered them in the context of the overall intent of the 2N rules.

Based on its interpretation of the rules, DWM will implement repairs and replacements of failed UST piping as follows. UST piping systems that fail due to accidental physical damage that occurs during site work (e.g., construction, drilling) may be repaired in accordance North Carolina rule 15A NCAC 2N .0400 provided the piping manufacturer's guidelines and specifications determine that restoration is possible and that the repair procedures are appropriate for the damaged pipe. These repairs will not require that the entire piping system be replaced with a piping system that meets the performance standards in 15A NCAC 2N .0900 (secondary containment and interstitial monitoring).

However, UST piping systems that fail due to such causes as pipe deterioration, deformation, corrosion, manufacturing defects, faulty installation or that fail due to unknown causes cannot be repaired and must be replaced. Pursuant to 15A NCAC 2N .0900, the entire piping system will then be required to meet the new performance standards including secondary containment and interstitial monitoring.

**Please note that releases from damaged or failed piping no matter what the cause must be reported to NC DENR within 24 hours and initial abatement and response actions must be implemented immediately in accordance with the most recent version of the UST Section Guidelines for Site Checks, Tank Closures and Initial Response and Abatement.**

**Question:** I want to extend piping from an existing dispenser to a new dispenser. Will the existing piping (piping from the tank to the existing dispenser) have to be upgraded to meet the new performance standards? *(January 18, 2008)*

**Answer:** Yes, the entire piping system all the way back to the tank is required to meet the new performance standards. However, in the event that the existing piping (from tank to first dispenser) already meets the new performance standards except for the trace tape, the trace tape does not need to be added to the existing portion of pipe.

**\*\*Question:** I want to install a new tank in the same pit as the old tank and use the existing double-walled flex piping to connect the dispenser to the new tank. I will have to uncover some of the old piping, pull it up out of the ground, cut part of it off, push the remaining pipe back into the trench and connect it to the new tank. The existing pipe meets all of the new performance standards for a new pipe installation except that it was not manufactured under the current UL 971 standards and it does not provide a method for locating the pipe once it is buried. Since I am removing only part of the piping from the ground and then placing it back into the ground, is this considered a new installation and will the piping have to meet all of the new performance standards including the new UL 971 requirements? *(July 8, 2008)*

**\*\*Answer:** Provided that no more than ten feet of piping is excavated and brought above ground, the piping will not have to meet the most recent UL 971 standards and will not have to have a method by which it can be detected once it is buried. However, the entire UST system (tanks, piping and UDC) will have to meet all of the other requirements of 15A NCAC 2N .0900.

A UST-6A is required to be submitted to the UST Section for approval and two inspections will be required, one at the time the tank is tightness tested prior to installation and one after the piping is connected to the new tank, but before it is completely buried. If flexible double-walled piping is extended to connect with the new submersible pump, then the connection must be placed in a monitored containment sump if any of the piping connections are metal. Since the pipe has held product, a normal air pressure test of the primary pipe will not be able to be conducted and an inert gas must be used in accordance with manufacturer's instructions to pressure test the primary pipe. However, the secondary pipe can be tested as usual during the inspection using an air test conducted in accordance with manufacturer procedures. Additionally, a third party certified precision line tightness test will have to be performed and the test results provided with the UST-6B application.

## **CONTAINMENT SUMPS**

**Question:** A containment sump is cracked and must be replaced. Is the replacement sump required to meet the new performance standards? *(January 18, 2008)*

**Answer:** Yes, the replacement containment sump is required to meet the new performance standards including continuous interstitial monitoring using an electronic sump sensor or vacuum, pressure or hydrostatic interstitial monitoring methods.

## **ANCILLARY EQUIPMENT**

**Question:** I have to replace the submersible turbine pump (STP) on a UST. Will the new STP have to be placed in a containment sump meeting the new performance standards? *(January 18, 2008)*

**Answer:** Yes, the replacement STP will have to be placed in a containment sump meeting the requirements of the new performance standards including continuous interstitial monitoring using an electronic sump sensor or vacuum, pressure or hydrostatic interstitial monitoring methods.

**Question:** To install a containment sump at the STP for an existing UST, I have to cut the pipe outside of the area where the containment sump will be located, install the sump, and then splice in a section of new pipe. If I am only installing or replacing the STP, do I also have to replace the entire piping system with pipe meeting the new performance standards? *(January 18, 2008)*

**Answer:** No, you do not have to replace the entire piping system so long as you replace no more than two feet of piping outside the footprint of the containment sump. All other piping replacements will require that the entire piping system be replaced with pipe meeting the new performance standards.

**Question:** If I am just replacing the motor within the STP, will I have to add a containment sump meeting the new performance standards? *(January 18, 2008)*

**Answer:** No, replacing a motor within a STP will not trigger the requirement for a containment sump.

**Question:** If I am just replacing my automatic line leak detector (ALLD), will the replacement ALLD have to be placed in a containment sump meeting the new performance standards? *(January 18, 2008)*

**Answer:** No, if only the ALLD is replaced, it will not have to be installed in a containment sump. However, if the STP is also replaced, then the ALLD and STP will have to be placed in a containment sump meeting the requirements of the new performance standards including continuous interstitial monitoring using an electronic sump sensor or vacuum, pressure or hydrostatic interstitial monitoring methods.

## **SITING NEW UST SYSTEMS**

**Question:** Can I install an UST system in an area of contaminated groundwater? *(January 18, 2008)*

**Answer:** If the groundwater in the area of the proposed UST system installation is close to the surface and is contaminated with free product, then the UST system cannot be installed at that location. The new UST system will have to be located in another area of the site where it will not be in contact with free product.

## **NOTIFICATION REQUIREMENTS**

**Question:** When preparing UST system design plans, do the utilities on the site have to be surveyed?  
(January 18, 2008)

**Answer:** The professional engineer preparing the design plan will make this determination.

**Question:** If I am replacing piping that met the new performance standards with the exact same piping, do I have to submit another UST-6A, have a piping inspection and then submit another UST-6B? (January 18, 2008)

**Answer:** Yes, the rules require that notification be submitted when tanks and piping, just tanks or just piping are installed or replaced. The purpose of this requirement is to update the state's records on the site and to ensure that the new piping is constructed, installed and tested correctly. If the UST Section has previously approved the design plans for the site, then the subsequent review should take less time.

**\*\*Question:** I submitted an UST-6A application for a piping replacement and have received approval to begin replacement work. During the work, I decided to install additional piping out to a new dispenser island. This additional work was not on the approved UST-6A plans. Do I need to submit another UST-6A or can I go ahead and make the modifications and notify the UST Section of the modifications after the fact using the UST-6B form? (July 2009)

**\*\*Answer:** An amended UST-6A application must be submitted for approval prior to beginning the additional work. Significant modifications to the original NC DENR approved design plans are not allowed without submitting an amended UST-6A form including updated design plans for review and approval by the UST Section. Significant modifications include but are not limited to the addition of extra tanks, piping systems, piping extensions and/or dispensers. The UST Section will seek to expedite its review of the amended UST-6A form so that installation work can proceed expeditiously.

Minor modifications to the original NC DENR approved design plans are allowed without submitting an amended UST-6A form provided that a North Carolina Professional Engineer (NC PE) reviews the proposed changes, finds them acceptable and signs off on them on the UST-6B form submission. Minor modifications include installing a different size tank than was originally proposed, installing a different but equivalent make and model piece of UST equipment and installing tank and/or piping in a slightly different location on the property due to unexpected site conditions. If minor modifications are made to the original design plan, then each modification must be shown on a new or revised design plan submitted with the UST-6B. The new or revised design plan must be sealed or stamped by a NC PE. Changes to the original design plan must be indicated using a revision cloud symbol, called out, or otherwise highlighted on the new or revised design plan so that it is obvious to the reviewer which changes were made and what they were.

**Question:** If I am adding or replacing a siphon bar between manifolded tanks, do I have to submit a UST-6A, have a piping inspection and then submit a UST-6B? (January 18, 2008)

**Answer:** Yes, a siphon bar is considered part of the piping system and notification and inspection is required.

**Question:** If I am adding UDC to an existing UST system and will not be replacing the piping or the tank, do I have to submit a UST-6A to DWM for approval? *(January 18, 2008)*

**Answer:** No, you do not have to submit a UST-6A to DWM if you are only installing UDC for an existing UST system.

**Question:** Do I have to pay a fee for DWM to review my UST-6A and UST-6B? *(January 18, 2008)*

**Answer:** No, there is no fee.

**Question:** Do the as-built plans submitted with the UST-6B have to be prepared by a NC Professional Engineer (PE)? *(January 18, 2008)*

**Answer:** No, as-built plans do not have to be prepared by a PE. However, a PE must approve (in writing) any modifications to the original design plan.

## ***UST SYSTEMS WITH ABOVEGROUND PIPING***

**Question:** If I am replacing the aboveground piping system at a marina from a transition sump out to the end of a dock, will the replacement aboveground piping be required to meet the new performance standards? *(January 18, 2008)*

**Answer:** No, aboveground piping associated with a UST system does not have to meet the new performance standards; however, UDC is required under the dispenser.