Performing Work On Existing UST Systems

Created January 2012, Reaffirmed April 2015

Bureau of Underground Storage Tank Regulations

http://www.com.state.oh.us/fire/default.aspx

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The Regulatory History of Double Wall Tanks, Piping and Containments

On May 16, 2011, the Division of State Fire Marshal, Bureau of Underground Storage Tank Regulations (BUSTR) amended several regulations concerning the performance of work on piping and containments associated with existing underground storage tank (UST) systems. This guidance is intended to clarify when double wall USTs, piping and containments are required and if the containments should be equipped with sensors for the purpose of monitoring for releases. Over the past 20 years, BUSTR regulations have required secondary containment in the form of double wall tanks, piping and containments for the following situations:

- After September 1, 1992, new UST systems installed in sensitive areas (usually in western Ohio) are required to be equipped with secondary containment;
- After December 22, 1995, new (and all existing) UST systems containing hazardous substances are required to be equipped with secondary containment;
- After March 1, 2005, new UST systems are required to be equipped with secondary containment in the form of double wall piping and containments (though new USTs are not required to be double wall); and
- After May 16, 2011, new UST systems are required to be equipped with secondary containment in the form of double wall tanks, piping and containments.

Changes to Construction Requirements for Existing UST Systems as of May 16, 2011

A number of UST systems were installed prior to the dates indicated above. The majority of these UST systems used single wall components, and they are often referred to as 'grandfathered systems.' BUSTR regulations allow these grandfathered systems to remain unchanged unless new rules specifically require these systems to be replaced or modified. For example, BUSTR rules required all existing USTs containing hazardous substances to be replaced with secondary containment after December 22, 1995. Similarly, as of May 16, 2011, the BUSTR rules require all existing single wall UST systems to be replaced or modified under the following conditions:

- If an existing single wall UST is replaced, the new UST shall be double wall and shall include a tank top containment. Replacing an UST does not automatically mean that the existing piping needs to be upgraded to double wall pipe or that under dispenser containments need to be installed or upgraded;
- If more than 50% of an existing piping run is worked on, then all of the piping and containments associated with the piping run shall meet secondary containment requirements including containments at the UST and under each dispenser. If less that 50% of an existing piping run is worked on, owners may use single wall piping at their discretion (for sites with grandfathered systems);
- If an existing dispenser is replaced with a new dispenser in the same location and any portion of the main product line (prior to the flex line) undergoes work at the same time, then a containment shall be installed under the dispenser;
- If a new dispenser is installed where no dispenser was present before at a site, then a containment shall be installed under the new dispenser;
- If 100% of an existing island is replaced, then containments shall be installed under each dispenser located on the island that is part of the replacement work; and
- When measuring to see if more than 50% of piping or containments have undergone work at a site, all calculations shall be cumulative and shall include all work performed after May 16, 2011, regardless of the amount of time between each work event.

Changes to Release Detection Requirements for Existing UST Systems as of May 16, 2011

Whenever secondary containment is added to an existing grandfathered UST system, owners and operators shall also install appropriate release detection. Interstitial sensors are commonly used to monitor double wall USTs. Sump sensors are commonly used to monitor double wall piping and containment areas. The amount of work performed on an UST system dictates the minimal type of release detection that is required:

- If an exiting UST is replaced, the new double wall UST shall be equipped with interstitial monitoring;

- If more than 50% of a grandfathered piping run undergoes work, the new double wall piping shall be equipped with interstitial monitoring; and
- If containments are added to an existing grandfathered site, release detection is not required in the new containments until 50% of the possible containment locations at the site undergo work.

Clarification of Policy

During the rule change effective March 1, 2005, BUSTR held to a policy that the requirements for double wall piping and containments would only apply to components associated with newly installed USTs. If an existing UST underwent work, owners could elect to use single wall piping and forego the installation of containments. This policy has been superseded by the new requirements in the rules effective May 16, 2011.

Assessing the Situation Correctly

Before performing work at an existing site, owners and operators as well as contractors need to assess the UST system and ask the following questions:

- When was the existing UST system installed at the site?
- At the time of installation, was the UST system required to be secondarily contained?
- What work is to be performed and will the work result in the need to upgrade portions of the UST system to meet secondary containment requirements?

By asking these questions and following the conditions described in this guidance, you will be able to determine if the UST system is grandfathered and the amount of work that can be performed on the UST system before the system is required to be modified or replaced with secondary containment. To help in this determination, visit the BUSTR web site at http://www.com.state.oh.us/fire/default.aspx and review the site history to see what previous work was performed at the site.

Work and Permits

Throughout this document, the term 'work' is used to describe activities that could lead to the need to equip UST systems with secondary containment. In this context, work means those activities that require a BUSTR permit such as installation, replacement, modification, and major repair activities. Work does not mean 'routine maintenance or normal operational upkeep' as defined in the BUSTR rules.

Closure Sampling and Closure Assessment Report

It is important to remember that most of the work described in this guidance triggers the requirement for closure sampling and a closure assessment report. These requirements are specific to the type of work being performed at the site, and owners and operators are encouraged to visit the BUSTR web site at http://www.com.state.oh.us/fire/default.aspx for more information on these requirements.

Rule References and Contact Information

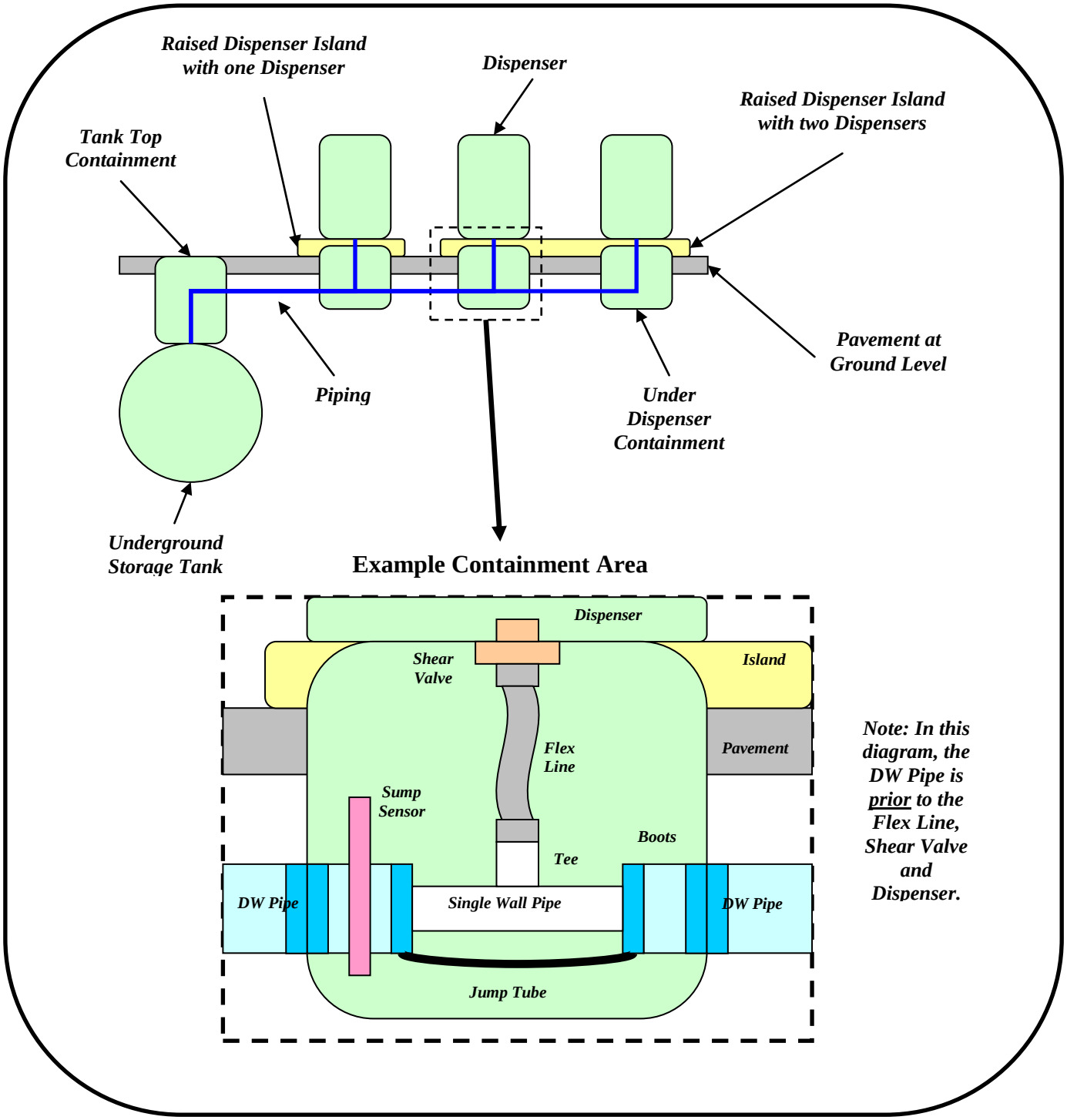
This guidance is for informational use only and is not intended to supersede or replace any requirements of the BUSTR regulations. Complete copies of the recent rule changes may be found on the BUSTR web site at http://www.com.state.oh.us/fire/default.aspx. The topics addressed by this guidance may be found in:

- Paragraph (C)(7) of rule 1301:7-9-06 of the Administrative Code;
- Paragraph (C)(8) of rule 1301:7-9-07 of the Administrative Code; and
- Paragraphs (I) through (L) of rule 1301:7-9-12 of the Administrative Code.

If you encounter a scenario that you are not sure about, please send us a fax at (614) 752-7942 or an email at WEBBustr@com.state.oh.us. In order that we may respond to you quicker, please include a diagram depicting your UST system and the work that you intend to perform.

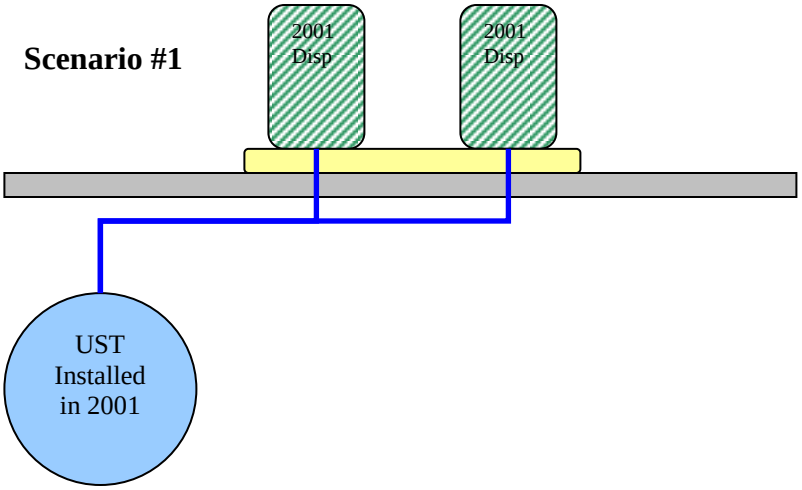
The following diagram is an example of a typical UST system and is intended for general informational purposes.

Example of a Cross Section of a Secondarily Contained UST System



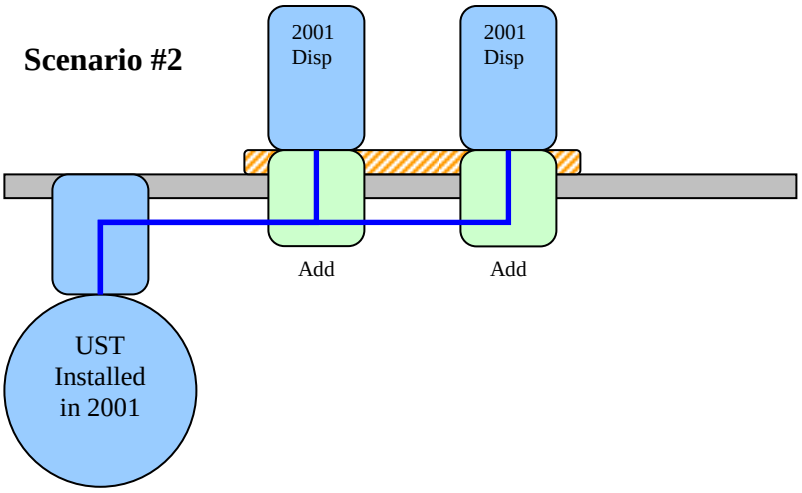
The following diagrams depict several replacement and modification scenarios and are intended for general informational purposes. Each site must be assessed based upon its site-specific circumstances.

Scenario #1



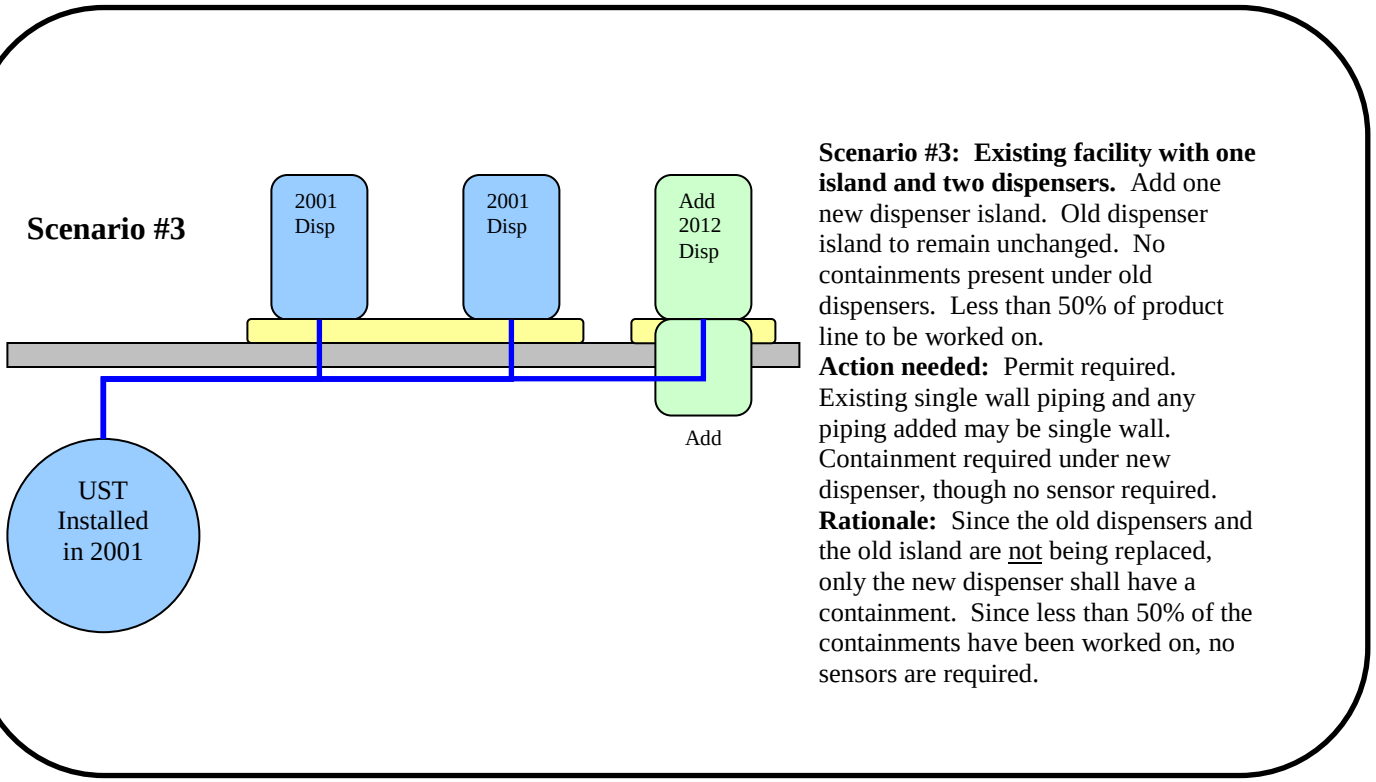
Scenario #1: Existing facility with one island and two dispensers. Replace two old dispensers on one island. No containments present under old dispensers. Shear valves and flex lines to be replaced. No work to be performed on product line.
Action needed: Permit required. No containments or sensors required under replaced dispensers.
Rationale: Since the main product line prior to the flex line is not undergoing work, the old dispensers may be replaced without triggering requirement for containments or sensors.

Scenario #2

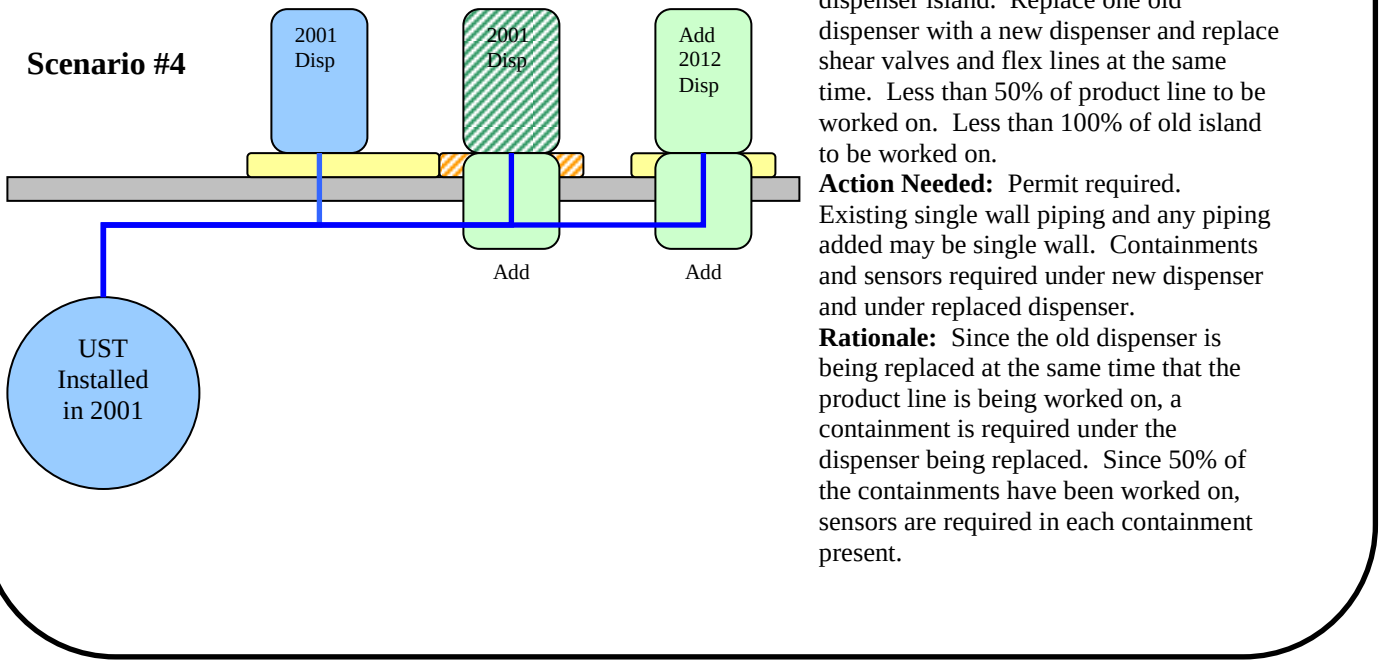


Scenario #2: Existing facility with one island and two dispensers. Replace 100% of the old island. No containments present under old dispensers. Shear valves and flex lines to be replaced. Less than 50% of product line to be worked on.
Action needed: Permit required. Existing single wall piping and any piping added may be single wall. Containments required under dispensers. Sensors required in all containments including tank top containment.
Rationale: Since 100% of the island is being replaced, containments are required under dispensers. Since more than 50% of the containments have been worked on, sensors are required in each containment present.

The following diagrams depict several replacement and modification scenarios and are intended for general informational purposes. Each site must be assessed based upon its site-specific circumstances.



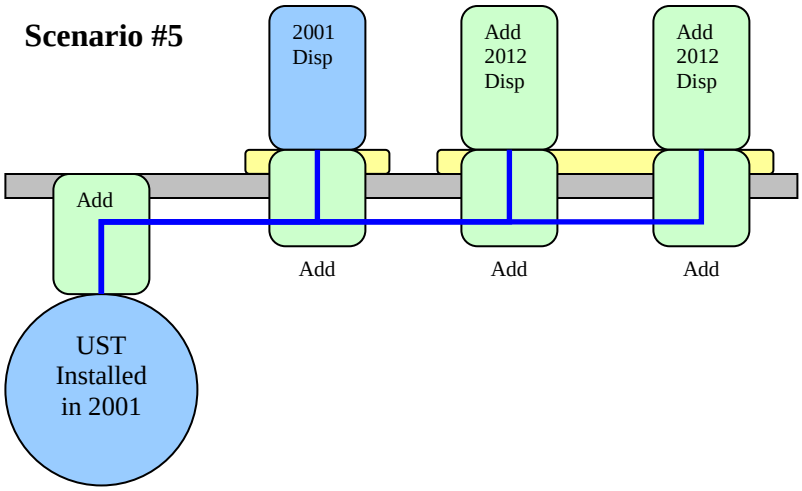
Scenario #3: Existing facility with one island and two dispensers. Add one new dispenser island. Old dispenser island to remain unchanged. No containments present under old dispensers. Less than 50% of product line to be worked on.
Action needed: Permit required. Existing single wall piping and any piping added may be single wall. Containment required under new dispenser, though no sensor required.
Rationale: Since the old dispensers and the old island are not being replaced, only the new dispenser shall have a containment. Since less than 50% of the containments have been worked on, no sensors are required.



Scenario #4: Existing facility with one island and two dispensers. Add one new dispenser island. Replace one old dispenser with a new dispenser and replace shear valves and flex lines at the same time. Less than 50% of product line to be worked on. Less than 100% of old island to be worked on.
Action Needed: Permit required. Existing single wall piping and any piping added may be single wall. Containments and sensors required under new dispenser and under replaced dispenser.
Rationale: Since the old dispenser is being replaced at the same time that the product line is being worked on, a containment is required under the dispenser being replaced. Since 50% of the containments have been worked on, sensors are required in each containment present.

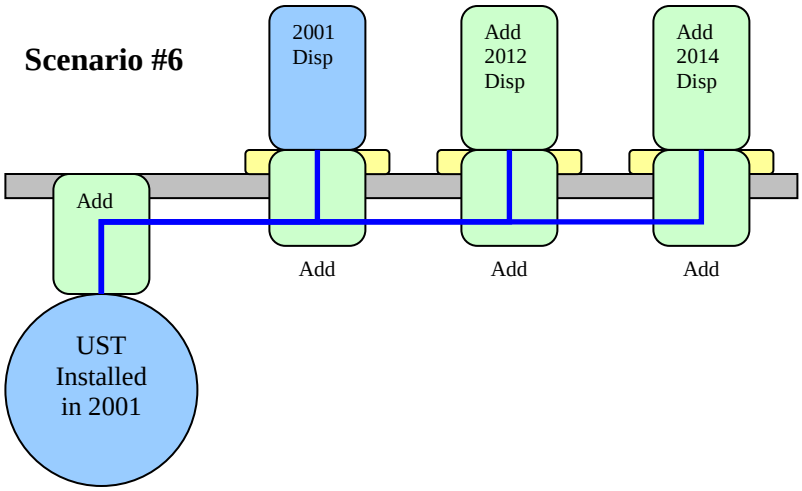
The following diagrams depict several replacement and modification scenarios and are intended for general informational purposes. Each site must be assessed based upon its site-specific circumstances.

Scenario #5



Scenario #5: Existing facility with one island and one dispenser. Add one new island with two new dispensers. More than 50% of product line to be worked on.
Action needed: Permit required. All piping shall be double wall. Containments and sensors required under all dispensers and at the tank top.
Rationale: Working on greater than 50% of the product line triggers requirement for all piping to be double wall and the installation of containments at all locations. Since more than 50% of the containments have been worked on, sensors are required in each containment.

Scenario #6



Scenario #6: Existing facility started with one island and one dispenser. Add one new dispenser island in 2012 and another new dispenser island in 2014. Total work causes the piping run to more than double in length.
Action needed: Permit required. During work performed in 2014, all piping shall be double wall. Containments and sensors required under all dispensers and at the tank top.
Rationale: All work performed since the effective date of the rule (May 16, 2011) shall be taken into consideration when determining if more than 50% of the piping has been worked on. Since more than 50% of the containments have been worked on, sensors are required in each containment.