



Maryland Department  
of the Environment

## FACTS ABOUT: Product Pipe Manifold

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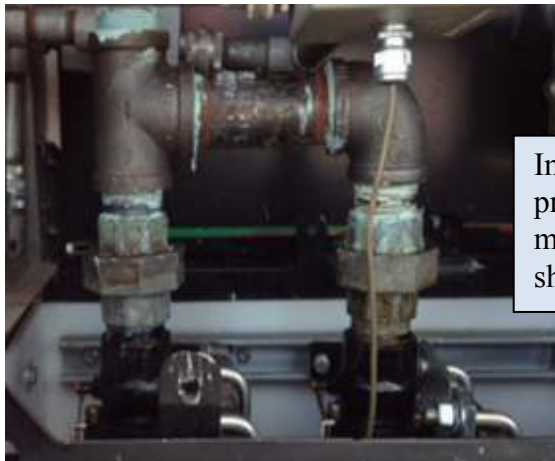
### **IMPROPER INSTALLATION OF PRODUCT PIPE MANIFOLD**

The installation of product pipe manifold is a common practice in the petroleum industry, and is used to increase product storage, used when switching product type and widely used when a station discontinued storing mid-grade gasoline and converted to regular gasoline.

A product pipe manifold installed above the shear valves may cause a safety and fire hazard. In the event of a break in one shear valve, the product flow would not shut-off on the other pipe, thus allowing product to continue to discharge resulting in a safety and fire hazard. Regardless of the type of shear valves installed, (i.e. standard single poppet shear valve, double poppet shear valve, and double-poppet shear valve with bladder triggering device), a product pipe manifold may not be installed above the shear valves.

- Shear valves have a flow direction.
- The secondary poppet on double poppet shear valve is designed to relieve excess pressure in the event of a fire. This relief of pressure occurs below normal operating pressure of a pressurized piping system.
- Purpose of a shear valve is to stop the flow of fuel from the dispenser product pipe upon impact, fire or damage to the dispenser, and in the event of a vehicle pull-off with the dispenser nozzle still in its tank.

### **ABOVE SHEAR VALVE MANIFOLDS**



Improperly installed  
product pipe  
manifold above the  
shear valves



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## **WHAT MUST UST OWNERS DO?**

Inspect inside each dispenser to determine if the product pipes are manifolded above the shear valves.

## **HOW SHOULD THE DEFICIENCY BE CORRECTED?**

Work with a Maryland Certified UST Technician to design the piping system so the manifold is below the shear valve. A properly installed manifold will have one shear valve for each grade of product properly mounted below the dispenser. Product pipe manifolds may be installed below the shear valve or at the tank top provided the following are included:

- Evaluate alternating operation of submersible turbine pumps.
- Installation of check valves at the correct location on the product pipe and operating at the correct psi to prevent backflow to a tank.
- Line leak detectors (mechanical and electronic) must be installed in the correct location and will function in accordance manufacture, third party approved specifications and in accordance with Code of Maryland Regulation (COMAR).
- All new underground pipes must be UL971 double-wall and terminate in containment sumps.

## **WHEN DOES THE CORRECTION NEED TO BE COMPLETED?**

Because the improper manifold pipe is a safety and fire hazard, the correction must be performed immediately and within 30 days of discovery. Owners may elect to remove the manifold and cap one pipe until the permanent correction is completed.

## **WHAT ACTION WILL BE TAKEN?**

- UST owner and operator may be subject to a delivery ban, immediate cease and desist dispensing order, civil penalties and other legal sanctions.
- The UST system will fail required inspections.
- Maryland UST Technicians may be subject to denial, suspension or revocation of their certification and penalty sanctions if they install an improper product pipe manifold.

