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Enforcement Discretion to Exempt Single-Walled Safe Suction Piping from Tightness Testing

Background

The Department's *Rules for Underground Oil Storage Facilities*, 06-096 CMR ch. 691 (the Rules), require tightness testing of underground product piping in any of the following circumstances:

- The facility owner or operator tests annually to meet leak detection requirements pursuant to 06-096 CMR ch. 691 § 5(C)(2)(a) and § 5(D)(10)(a); or
- The facility owner or operator must investigate evidence of a possible leak and/or actual leaks or discharges pursuant to 06-096 CMR ch. 691 § 5(D)(10)(b) and § 12(B)(1)(b); or
- The facility owner or operator requests that an underground oil storage tank (UST) and its associated piping remain in service beyond the expiration date of its original tank 30 year warranty pursuant to 06-096 CMR ch. 691 § 5(F)(1)(a)&(e) and § 5(F)(2)(a)&(j); or
- The facility owner or operator seeks Commissioner approval of their request to return to service a facility that has been temporarily out of service beyond 24 consecutive months or beyond an approved extension pursuant to 06-096 CMR ch. 691 § 11(B)(3)(d).

“Safe suction piping” also known as European safe suction, means underground product piping that continuously slopes back to the tank with at least 1/8 inch per foot, and has a single check valve located as close to the pump as possible, such that if a leak in the piping occurred, product would drain back to the tank.

The vacuum (3 to 5 pounds per square inch) created by the remote dispenser pump prevents fuel from escaping the piping. When the pump is not running, the check valve just below the pump maintains the vacuum in the piping.

If the check valve fails or the piping is breached, fuel drains back into the tank instead of being released into the environment. Suction piping that is designed and installed in this manner is considered self-monitoring, conforming or “safe” suction such that leak detection is not required.

Enforcement Discretion for Tightness Testing

The Department will exercise enforcement discretion from the tightness testing requirements for single-walled safe suction piping that is properly installed as described above, when a Maine Certified Tank Installer or Inspector (CTI) confirms in writing that:

- each suction line is properly sloped back to the tank, and
- there is only one check valve in each line installed as close as practical to the pump.

The Department has developed the attached checklist titled "Safe Suction Piping Validation" that the CTI may use to document that the above conditions have been met.

The requirement for tightness testing safe suction piping will be upheld where a successful demonstration of proper installation has not been made to the Department's satisfaction, or when the Department determines tightness testing is needed to investigate evidence of a possible leak or discharge pursuant to 06-096 CMR ch. 691 § 5(D)(10)(b) and § 12(B)(1)(b).



David Burns, Acting Director
Bureau of Remediation & Waste Management
Department of Environmental Protection

10/24/2016
Date



Safe Suction Piping Validation

Certified Tank Installers and Inspectors may use this form to validate that one or more piping runs (a piping run is defined as a single, unbranched pipe line between one tank and one suction pump) meets the requirements to be classified as safe suction piping. Each piping run must be evaluated separately. The requirements for safe suction piping are:

- Piping operates at less than atmospheric pressure
- Piping slopes towards the UST so product drains to the UST if suction is lost
- Piping has only one check valve
- The check valve is located directly below and as close as practical to the suction pump

Ways to determine proper slope for each piping run:

Cracking the fitting at the dispenser and hearing the hiss as the product flows back to the tank.

or

Determining the slope toward the tank is at least 1/8 inch per foot, over the piping length, calculated from:

- a. Engineering as-built drawings showing elevation change at the piping ends, and piping length; or
- b. Elevation change from the elbow under the dispenser to the elbow at tank top, and piping length; or
- c. Elevation measurements from the pavement at the dispenser to the spill bucket, and piping length. If the calculated slope is close to 1/8 inch per foot, the Department may require additional investigations.

Calculating the slope (Refer to Figure 1). Slope [S] may be determined by taking the change in elevation [E] ($[E] = \text{ELEV A} - \text{ELEV B}$) and dividing by the length of the piping run [L]. The result must be greater than or equal to 0.125 inches ($\frac{1}{8}$ ") per foot of piping length $[S = E \div L \geq 0.125 \text{ in/ft}]$.

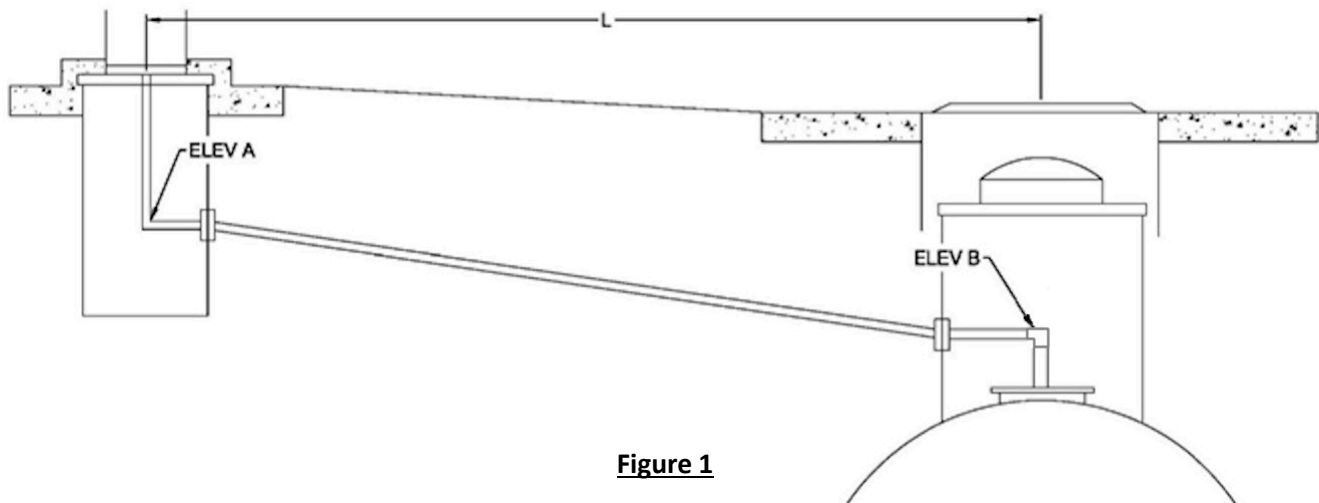


Figure 1

Example: A dispenser elbow (**ELEV A**) is surveyed at 6.280 ft. The tank top piping elbow (**ELEV B**) is surveyed at 5.238 ft. The piping length (**L**) is determined to be 86 ft. The elevation change (**E**) between the two elbows is 1.042 ft (or 12.5 inches), therefore the calculated slope (**S**) is $12.5 \text{ in} \div 86 \text{ ft} = 0.145 \text{ in/ft}$. In this example, the calculated slope of 0.145 in/ft is more than the minimum of 0.125 in/ft and the piping has proper slope.

Date:

FACILITY INFORMATION			
Facility Name:		Registration #:	
Facility Address:			
	Address	Town	State Zip Code
CERTIFICATION			
By signing this form, we the undersigned certify that all information is accurate and complete to the best of our knowledge. Number of piping runs evaluated: on pages (including this page).			
			ID #: _____
Installer Name			Date: _____
Installer Signature:			
Owner Name			Date: _____
Owner or Authorized Employee Signature			

TANK AND PIPING IDENTIFICATION			
Tank & piping information must match registration			
Tank/Chamber:		Volume (gals):	Product Stored: _____
Piping run #	(Manufacturer make/model/type, length, and dispenser number)		
PIPING VALIDATION			
Yes	No	Piping slopes toward the UST so oil drains to the UST if suction is lost	
How was slope determined?		(Provide any numbers used to calculate slope)	
Yes	No	Piping has only one check valve	
Yes	No	Check valve is located directly below and as close as practical to the suction pump	

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