**Section 175.420 Piping**

a) Piping that routinely contains regulated substances and is in contact with the ground, backfill or water shall be properly designed, constructed and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory, shall be third party listed for its intended use, and shall also meet the requirements of one of the following subsections:

1) The piping is constructed of noncorrodible material.

2) The piping is constructed of steel and protected as follows:

A) The piping is coated with a suitable dielectric material, if installed on or after April 21, 1989; and

B) All steel piping utilizes a cathodic protection system designed by a corrosion expert certified by NACE in cathodic protection design or by an Illinois Licensed Professional Engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks. If an impressed current system is selected, it must also be designed to allow determination of system operating status by means of permanently installed lights, amp, volts and hour gauges as required in Section 175.510.

3) The piping construction and corrosion protection are determined by OSFM to be designed to prevent release or threatened release of any stored regulated substance, in a manner that is no less protective of human health and the environment than the requirements in subsections (a)(1) and (a)(2). Before the installation of any such piping, its construction and corrosion protection shall be submitted to OSFM, in writing, and OSFM shall issue written approval.

b) Installed underground piping shall be of double-wall construction and equipped with interstitial monitoring that meets the applicable requirements of Section 175.630(f) and 40 CFR 280.43(g) for all permits issued February 1, 2008 and after. When required to make interstitial monitoring functional, the appropriate containment (e.g., under-dispenser containment, tank containment sumps, or junction sumps) shall be installed. Any replaced piping that routinely contains product and exceeds 20 feet or 50% of the total piping run shall require the entire pipe run to be replaced with double-wall, monitored piping as required for newly installed piping. If the site has multiple distinct product pipe runs, only that specific piping run being replaced shall be required to be double-wall construction with interstitial monitoring installed in compliance with this subsection (b). Unless otherwise required by the manufacturer, the dispenser product piping sump jumper tubes shall be removed or the product piping test boots pulled back after testing to allow the interstice to be open to the sump sensors. European suction systems are exempt from the requirement for having double-wall product piping, as well as from the requirement for having interstitial monitoring.

c) Piping, valves and fittings for flammable liquids shall be designed for the working pressures and structural stresses to which they may be subjected and third party listed for their intended use. The application of any material shall not interfere with the normal operation of the shear valves, fusible links or any equipment installed under the dispensers or submersibles. They shall be of steel or other materials suitable for use with the liquid being handled.

d) All piping shall be located so as to be protected from physical damage. Pipe trenches and pipe installation shall meet manufacturer's specifications for depth, width, slope, spacing and placement of pipe. Joint adhesive and thread sealant shall meet manufacturer's requirements for the regulated substance stored and/or transported by the pipe.

e) Pressurized piping systems (including existing systems) shall also be equipped with automatic line leak detectors (see Section 175.640(a)). After installation, pressurized piping shall be air tested for 30 minutes at 1.5 times the working pressure or 50 psi, whichever is higher. Suction and vent piping shall be air tested at a minimum positive pressure of 7 psi or in accordance with the manufacturer's recommended procedures.

f) All steel risers, vents and fills in contact with the ground, backfill or water shall be dielectrically wrapped or coated.

g) Beginning May 1, 2003, a positive shutoff valve shall be installed on the product line at the submersible or at the tank for all suction systems on all new installations and when piping is replaced at existing sites and made accessible at grade. An extractor valve will be accepted on European suction instead of a positive shutoff valve.

h) Vent lines will be air tested from the tank to grade level at the time of installation. This test will be done at 7 psi minimum or at the pressure recommended by the manufacturer. This test will be performed at the time of the line PAI test.

i) The application of any material shall not interfere with the normal operation of the shear valves or fusible links, or any equipment installed under dispensers or submersibles.

j) Any time product piping is installed or broken for repairs, a precision test must be conducted before the piping is put back into service.

k) On or after May 2, 2023 any tank installation or replacement shall require replacement of any existing single-wall piping with double-wall piping with the exception of European Suction systems. On or after May 1, 2003, the new installation or total upgrade of product piping shall be double-walled for the entire length of that product line, with the exception of European suction systems.

l) Any UST that fails to meet the criteria and requirements of Subparts D, E and F shall be removed within 60 days after receipt of a Notice of Violation requiring that removal. Field-constructed tanks and airport hydrant systems shall comply with Subpart I.

(Source: Amended at 47 Ill. Reg. 6837, effective May 2, 2023)