Ohio Administrative Code

Rule 901:5-2-11 Underground piping systems for loading and unloading liquid fertilizer.

Effective: November 24, 2006

The owner or operator of an underground piping system is responsible for and shall ensure that all new underground liquid fertilizer piping systems comply with this rule and shall maintain all records required by paragraph (D) of rule 901:5-2-07 of the Administrative Code.

If the underground piping system is to be used and designed as pressure piping without secondary containment, a professional engineer must certify, by letter to the department, that the underground piping system as designed meets the following requirements:

(A) All underground piping systems in place prior to the effective date of this rule shall be permitted to continue in operation until such time that any underground component of the system requires repair, upgrade, modification or replacement, at which time the entire underground portion of the system shall comply with the requirements of this rule.

(1) All systems, whether existing or new, shall comply with this rule by January 1, 2012.

(B) The department shall be notified by the owner prior to:

(1) Beginning construction of a new liquid fertilizer underground piping system; or

(2) Conducting repair, upgrade, modification or replacement of any existing fertilizer underground piping system.

(C) All underground piping systems shall be constructed as follows:

(1) Piping is permitted without secondary containment provided that one of the following ASTM international standards are met:

(a) The piping is made of 304 or 316 stainless steel pipe per ASTM A 312 minimum schedule 10; or

(b) Chlorinated poly vinyl chloride (CPVC) plastic pipe per ASTM F 442 and the DR not to exceed 17; or

(c) High density polyethylene (HDPE) plastic pipe per ASTM D 3350-05 with a DR not to exceed 17; or

(d) Polyvinyl chloride (PVC) plastic pipe per ASTM D 2241-05 and DR not to exceed 17; or

(e) Carbon steel pipe per ASTM A 53 minimum schedule 40, coated and wrapped; or

(f) Carbon steel pipe per ASTM A 53 minimum schedule 80, unprotected.

(2) All appurtenances shall be made of materials recommended by the manufacturer or materials specified in applicable standards for the type of liquid carried.

(3) Generally accepted engineering standards and practices, as defined in paragraph (R) of rule 901:5-2-01 of the Administrative Code, shall be followed for any pipe material used. Such standards and practices shall also be followed with regard to the trench, soil, backfill, pipe design, connections, secondary containment, supports, and adaptations to facilities for hydrostatic testing.

(4) The underground piping system shall be constructed so that hydrostatic testing can be performed.

(D) Hydrostatic testing:

(1) Hydrostatic testing shall be done to ensure the integrity of any underground piping system.

(2) Hydrostatic testing shall be conducted twice per calendar year at a minimum of six month intervals; or

(3) Hydrostatic testing shall be conducted upon request of the department if the department has reason to believe that the system has been compromised.

(4) The method of hydrostatic testing for all underground piping system materials shall be ASTM F 2164-02, unless the owner or operator has certification from a professional engineer that the standard used meets or exceeds ASTM F 2164-02.

(a) If the system fails to meet the requirements set forth in ASTM F 2164-02, then the owner or operator must report said failure to the department within forty-eight hours upon finding such failure; and

(b) The system must be repaired, modified or replaced immediately.

(5) A calibrated test gauge must be used for testing.

(a) Certification of the test gauge must be traceable to the standards of NIST.

(6) The pressure application tap and pressure gauge taps for hydrostatic testing must be labeled as such.

(E) Pneumatic or pressurized air testing is prohibited.

(F) If the underground piping system does not meet the requirements as set forth in this rule secondary containment is required. Secondary containment shall be a pipe within a pipe that drains into a sump collection that can be inspected for leakage. The secondary collection and sump shall be protected against the collection of rainwater, runoff, and groundwater; and

(G) The transfer pipe must be one identified in the ASTM standards referenced in paragraphs (C)(1)(a) to (C)(1)(f) of this rule.

(H) All materials incorporated or referenced in this rule can be found in rule 901:5-2-01 of the Administrative Code.