

901:5-2-03

Design requirements - bulk liquid fertilizer storage.**(A) Permanent storage vessels:**

- (1) Shall be constructed entirely of materials recommended by the manufacturer or specified in applicable standards for use with the type of liquid to be stored in the vessel;
- (2) Shall be designed according to generally accepted engineering standards and practices for liquid storage vessels and shall take into consideration the full hydrostatic head pressure, pressure buildup from pumps and compressors, and other mechanical stresses to which the storage vessel may be subject in the foreseeable course of operation;
- (3) Shall be equipped with a lockable liquid level gauging device unless another means of reliably and readily measuring the liquid level of the vessel has been approved by the director;
- (4) Shall be secured as necessary to prevent flotation or instability as a result of liquid accumulation within the secondary containment facility;
- (5) Shall have stenciled on them in a location clearly visible ~~in letters no less than four inches in height~~ the design capacity of the vessel and the identity of its contents;
- (6) Shall be equipped with a lockable shutoff valve.

(B) Appurtenances of permanent storage vessels:

- (1) All appurtenances necessary for loading and unloading shall be located within a secondary containment facility or have their own means of secondary containment; except hoses and permanent above-ground piping meeting the requirements of paragraphs (C)(1)(a) to (C)(1)(e) of rule 901:5-2-11 of the Administrative Code. However, the pipe specified in paragraph (C)(1)(e) of rule 901:5-2-11 of the Administrative Code does not have to be coated and wrapped;
- (2) All hoses used for loading and unloading shall be equipped with shut-off valves at each end;
- (3) All pipes and hoses shall be adequately supported to prevent sagging and shall be protected against risk of damage by vehicles engaged in loading and unloading;
- (4) All appurtenances shall be made entirely of materials recommended by the manufacturer or specified in applicable standards for use with the type of

liquid they will carry and the type of materials used in the vessels and other appurtenances.

(C) Secondary containment facilities for permanent storage vessels:

- (1) Shall have a volumetric capacity of not less than ten per cent greater than the volume of the largest storage vessel within the secondary containment facility. Volumetric capacity shall be calculated by multiplying the surface area enclosed by the dike by the height of the dike minus the volume of the portions of the other permanent storage vessels within the dike which would be submerged;
- (2) The base of any permanent storage vessel over fifteen feet in height shall be no less than four feet from the inside base of the secondary containment facility dike;
- (3) The dike and surface area enclosed within it shall be constructed of materials compatible with the material they are to contain, be designed to withstand a full hydrostatic head of any discharged liquids, have a resistance to vertical and horizontal liquid movement that does not exceed a rate of 1×10^{-5} centimeters per second (thirty-five hundredths of an inch per day) for the liquids they are to contain and have no open drains.

~~(D) Notwithstanding the provisions of rule 901:5-2-02 of the Administrative Code, an owner of a permanent storage vessel existing on the effective date of this rule, other than one erected on site, which is located on a farm shall have until January 1, 2007 to comply with the requirements of paragraphs (C)(1), (C)(2), and (C)(3) of this rule.~~

Effective:

Five Year Review (FYR) Dates: 1/14/2025

Certification

Date

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