**Section 215.85 Systems Utilizing Stationary, Pier-Mounted or Skid-Mounted Aboveground Non-Refrigerated Storage**

a) This Section applies to stationary, pier-mounted, skid-mounted, aboveground non-refrigerated storage installations using containers other than those constructed in accordance with DOT specifications. Section 215.25 applies to this Section unless otherwise noted. Underground storage tanks are prohibited.

b) The minimum design pressure for non-refrigerated containers shall be 250 psig. U-68 and U-69 ASME Code containers with a design pressure of 200 psig are acceptable for reinstallation if re-certified to 250 psig in accordance with . CGA G-2, 1 Basic Rules 5.1.

c) All vapor and liquid connections, except for pressure relief valves and those specifically exempted in Section 215.40, shall be equipped with approved excess flow valves (back-pressure check valves are acceptable for filling connections) or, may be fitted with approved quick-closing internal valves that, except during operating periods, shall remain closed.

d) Each storage container shall be provided with a pressure gauge graduated from 0 psig to 400 psig. Gauges shall be designated for use in ammonia service.

e) All containers shall be equipped with a suitable vapor equalizing connection.

f) All containers shall be equipped with a fixed maximum liquid level gauge.

g) Every container shall be provided with one or more pressure relief valves of spring-loaded or equivalent type that shall comply with the following specifications:

1) Relief valves shall be installed in a manifold or other suitable device so that they can be replaced while the container remains pressurized. Internal relief valves are exempt from this requirement.

2) The discharge from pressure relief valves shall be vented away from the container, upward and unobstructed to the open air to an area such that persons, property and the environment will not be harmed. Vent pipes shall not be restrictive or smaller in size than the pressure relief valve outlet connection. All pressure relief valves shall have suitable rain caps that will allow free discharge of the vapor and prevent the entrance of water. Suitable provision shall be made for draining condensate that may accumulate.

3) If desired, vent pipes from two or more pressure relief devices located on the same unit, or similar lines from one or more different units, may be run into a common header, provided the cross-sectional area of the header is at least equal to the sum of the cross-sectional areas of the individual vent pipes.

h) Internal relief valves shall not be used on any tank manufactured after July 1, 2003.

i) Containers shall be provided with substantial reinforced concrete footings and foundations or structural steel supports mounted on reinforced concrete foundations. In either case, the reinforced concrete foundations or footings shall extend below the established frost line and shall be of sufficient width and thickness to support the total weight of the containers and contents adequately. Where required by local codes, seismic loads shall be considered in the design of the footings and foundations. The foundation shall maintain the lowest point of the tank not less than 36 inches above the ground. Floating type foundations shall also be acceptable providing the foundations are designed to adequately support tank, contents, and piping. (See Section 215.45.) Skid-mounted units shall include all piping and pumps or compressors as one unit. If the design of the a unit precludes a minimum of 24 inches ground-to-tank clearance, bottom-side inlet, outlet valves and piping are prohibited. Skid-mounted anhydrous ammonia storage tanks must be installed on permanent concrete footings or adequate floating reinforced concrete slabs.

j) Horizontal aboveground containers shall be mounted on foundations in such a manner as to permit expansion and contraction. Every container shall be supported so as to prevent the concentration of excessive loads. If supports of the saddle type are employed, the bearing afforded by the saddles shall extend over at least one-third of the circumference of the shell. Suitable means for preventing corrosion shall be provided on that portion of the container in contact with the foundations or saddles.

k) Secure anchorage or adequate pier height shall be provided against container flotation wherever sufficiently high flood water might occur.

l) All anhydrous ammonia storage locations shall have a permanent working platform installed at each nurse tank or applicator loading location. The working platform shall be designed to allow for connecting and disconnecting of transfer hoses without standing on equipment being loaded. This Section does not apply to nurse tanks or applicators with a working surface designed for loading purposes.

m) All on-site structures constructed after July 1, 2016, shall be a minimum of 15 feet in all directions from the aforementioned storage tanks.

n) The horizontal distance between aboveground containers of over 3000 gallon capacity shall be at least 5 feet.

o) Each container or group of containers shall be marked on at least two sides that are visible with the words ANHYDROUS AMMONIA or CAUTION – AMMONIA in sharply contrasting colors with letters not less than 4.0 inches high. Two diamond type, non-flammable gas, UN 1005, USDOT placards may be displayed with letters not less than 4.0 inches high.

p) Containers and appurtenances shall be located or protected by suitable barriers so as to avoid damage by trucks or other vehicles. Main container shutoff valves shall be kept closed and locked when the installation is unattended.

q) Storage containers need not be electrically grounded. When an electrical system exists, such as for lights or pump motors, the electrical system shall be installed and grounded in a manner as required by the National Electrical Code or local ordinance.

r) A sign with letters of a minimum height of two inches giving the name and telephone number, including area code, of owner, manager or agent of the anhydrous ammonia storage location shall appear at the site entrances to the property or apart from the storage tanks.

s) Railroad tank cars shall not be utilized for permanent anhydrous ammonia storage. Railroad tank cars that are currently in use for ammonia storage shall not be reinstalled for ammonia use once the container has been removed from the original saddle. All railroad tank cars used for permanent storage shall be removed from service pursuant to Section 215.10(c).

(Source: Amended at 40 Ill. Reg. 8704, effective July 1, 2016)