



February, 2015

To: Agricultural Anhydrous Ammonia handlers in Iowa

Re: Changes in Regulation of Agricultural Anhydrous Ammonia

The purpose of this letter is to make Agricultural Anhydrous Ammonia handlers in Iowa aware of new Anhydrous Ammonia Standards and changes the adaptation of the new standards and exceptions may bring.

On December 15, 2014, CGA (Compressed Gas Association) received a Notification of Final Action on *ANSI/CGA G-2.1, 2014, Safety Requirements for the Storage and Handling of Anhydrous Ammonia* provided by ANSI's Board of Standards Review. The new ANSI/CGA Standards are now the accepted standard in Anhydrous Ammonia storage and handling and regulatory agencies have the ability to expect compliance with the standards.

Some of the changes an Anhydrous Ammonia handler will see as a result of the accepted ANSI/CGA standard are:

- Unless the storage site's emergency response calls for them, 2 full faced gas masks and canisters are no longer required. However OSHA will still require them.
- Any storage container without a dataplate or identifying U-1A build sheet will have to be taken out of service by 2030. The new standard does allow retesting per NBIC.
- All metal flexible connections for permanent, nonrefrigerated installations shall be double braided and have a minimum working pressure of 350 psig. Manufacturer's markings or identifying labeling must be on a connection end.
- Underground piping shall be evaluated at a minimum of every 5 years to ensure leak tightness.
- Prior to each day's use the hose assembly shall be visually inspected for possible weakness. Hoses used seasonally shall have an additional documented inspection before each season. The inspection criteria are described in detail in the standard.
- Piers, or saddles, should extend over at least one third of the circumference of the shell. If not, engineering documents may be required that state existing pier design provides equal conformity.
- Each storage site must have an visible emergency sign noting; the phrase "EMERGENCY INFORMATION", name of the facility, name or title of at least 2 responsible persons, area code and telephone numbers of each person listed, and the phrase "the 911 address is", and the appropriate 911 address in 2 inch letters.
- Hoses will only be allowed to be used for the service life recommended by the manufacturer, or if not stated, 10 years from the date of manufacture.
- Container pressure relief valves shall be replaced no later than 5 years following the date of manufacture.

As with the 1989 ANSI K-61.1 Ammonia Standards, IDALS intends to adopt the *ANSI/CGA G-2.1-2014 Safety Requirements for the Storage and Handling of Anhydrous Ammonia* in the Administrative Rules with exceptions. **Iowa will not regulate according to the standards and exceptions until they are officially adopted.** Some of the changes in the new standards match what Iowa has written in their rules in the past. Following is a list of previous exceptions as well as proposed exceptions:

- As in the past, training will be required yearly. Documentation or "proof of training" is required. (Iowa)
- IDALS will not require 2 full face masks. OSHA will. (From the new standard)
- Anhydrous Ammonia equipment and components must be installed, operated, and maintained in accordance with the manufacturer's recommendations or best engineering practices. (Iowa)
- Areas in a storage site will have to be clear of combustibles and kept clear of materials and objects as to not interfere with emergency actions or evacuation. (Iowa)
- Bulkheads are now required in the new standard.

- Not only is exposed piping to be protected from impact but also the storage system and components. (Iowa)
- The emergency shut off valve required in the line going to the remote transfer station (risers), is now to be placed on the intake side of the pump, preferably as close to the storage tank as possible. (Iowa exception)
- Additional excess flow valves on double tanks are still required, mechanical remote shut offs may be used. (Iowa)
- Valves on implements of husbandry must be closed except during operation periods. (Iowa)
- IDALS will require pressure relief valves to be replaced 5 years from the manufactured date. (new standard)
- Hoses will be replaced subject to the manufacturer's guidelines, with 10 year max if not stated. (new standard)

As stated earlier, the new ANSI/CGA Standards are now the accepted standard in Anhydrous Ammonia storage. Know that agencies such as Homeland Security, EPA, and OSHA now have the ability to expect compliance with the standards.

IDALS intent is to adopt the new standards with exceptions in the Administrative Rules. This can be a timely process. With respect to IDALS, facilities should be able to operate as normal until the new standards and exceptions are adopted by Iowa. IDALS will conduct inspections during the summer 2015 inspection period using a new checklist based on adoption of the new standards and exceptions. The checklist will be used as an informational guide in respect to the new changes the standards and exceptions will bring. If the site or firm is not in compliance with existing State regulations, (the old standards and rules), they would be cited as in the past.

The new *ANSI/CGA G-2.1-2014 Safety Requirements for the Storage and Handling of Anhydrous Ammonia 6th edition* is copyrighted and available for purchase at:

<http://ansi.org/> or <http://www.cganet.com/>

For additional guidance, IDALS has posted information on the website. The IDALS website is at www.iowaagriculture.gov. You will find the subject "Anhydrous Ammonia Regulation Changes and Guidelines" in the center of the Commercial Feed and Fertilizer webpage, www.iowaagriculture.gov/feedandfertilizer.asp. Once you click on that, some of the subjects will be shown on the webpage, www.iowaagriculture.gov/feedAndFertilizer/anhydrousAmmonia.asp, these are:

- New ANSI Standards Highlights.
- Iowa's adaptation of the new Ammonia Standards
- What are the possible effects on RMPs due to the new standards?
- Frequently asked questions about Ag Anhydrous Ammonia use.
- Voluntary guidelines for Plumbing Two NH₃ Tanks on One Running Gear
- Requirements for new NH₃ installations.

The above are guidance materials only, and reference to original regulations should be considered for interpretation in each individual situation.

As always, guidance and interpretation will be available from IDALS Feed and Fertilizer personnel.

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