

2015 Tips from the Field

MDA's Anhydrous Ammonia Inspection and Permitting Program

In 2014 the Minnesota Department of Agriculture (MDA):

- Completed 88 routine anhydrous ammonia (NH₃) equipment/storage facility inspections.
- Responded to forty-two (42) NH₃ incidents; nine (9) of which resulted in injury, evacuations or were a result of incorrectly installed break-away quick couplers and/or withdrawal hoses that were excessively long.

A partial list of violations and the associated remedies that protect anhydrous ammonia handlers and the public from injury are listed below. If you have questions please contact MDA staff listed below, or reference the MDA's website for additional safety and compliance information at: www.mda.state.mn.us/nh3

Violations		Remedies
1	Personal Protective Equipment (PPE), NH ₃ gloves & goggles, not available and worn for NH ₃ handling or maintenance.	Make NH ₃ gloves and goggles available. Wear NH ₃ goggles & gloves for NH ₃ handling & maintenance.
2	Incorrectly installed break-away coupling devices - not installed per manufacturer's instructions.	Review and follow manufacturer's instructions. Operation of break-away coupling devices must not be impeded in any manner. This includes hose supports and jumper hose that is too short. Make sure the third (flat) bar/double swivel assembly is correctly installed.
3	Too long withdrawal (WD) hosing	Proper length of WD hose for specific application assembly, positioned above the nurse tank hitch with no chance of catching, being pinched, rubbing, or tearing during field applications and transport.
4	Safety water not provided of sufficient quantity and accessibility during NH ₃ handling or maintenance.	One accessible open top container with 150 gallons of clean water or a deluge shower/plumbed eyewash at the NH ₃ facility. At least 5 gallons of accessible, clean water on each nurse tank.
5	Nurse tanks not properly anchored.	Bolt/washer/nut assembly must be tight (does not move), securely anchoring nurse tank to running gear. Maintain the running gear frame free of defects.
6	Inadequate bleeder valves on both sides of the break-away coupling device.	Install bleeder valves as close as possible in both the male and female sections of the break-away coupling device.
7	Incorrect 250 or 450 psi rated hydrostatic relief valve installed instead of 350 psi to 400 psi rated hydrostatic relief valve.	Install a hydrostatic relief valve or equivalent, with a rating of 350-400 psi between each pair of positive shut off valves. (Includes storage and equipment).
8	Missing hydrostatic relief valves on dual nurse tank crossover hosing for liquid and vapor fill connections.	Install a hydrostatic relief valve with a rating of 350-400 psi between each pair of positive shut off valves when dual nurse tank fill connections are joined by hosing.

Violations		Remedies
9	Supplemental Excess Flow Valves (EFV) not installed in merged withdrawal and fill connections on dual nurse tank assemblies.	On dual nurse tank assemblies where either the liquid or vapor phases have shared shut-off valves, install an additional EFV at the intake side of each shared shut-off valve.
10	Valves, piping and fittings outside the valve guard on nurse tanks.	All nurse tank valves, piping and fittings must be protected within the nurse tank valve guard (includes withdrawal valve connections and crossover connections on dual nurse tank assemblies). Re-plumb the nurse tank valves, piping and fittings or extend the valve guard so all valves, piping and fittings are protected within the valve guard.
11	Main and riser hose end valves not closed and locked when the facility is unattended.	Close and lockout main tank and riser hose end valves when facility is unattended. In place of valve lockouts, lock gates at facility secured by fencing when facility is unattended.
12	Traffic protection near the truck unload may impede the pull-away protection at the truck unload during an angle pull-away situation	Reposition the traffic protection to allow an angle pull at the truck unload bulkhead or consult with a contractor or engineer to ensure that the bulkhead pull-away protection is adequate and in compliance.
13	Facility has cartridges instead of canisters.	Maintain four currently dated, NH3 rated CANISTERS at the storage installation.
14	Pressure relief valve (PRV) installation records	PRV installation records must be accurate, complete and current.
15	Illegible or missing nurse tank (tank) nameplate.	Tank nameplate must be present and legible. Remove all paint, tape, etc. If unable to make legible or nameplate is missing immediately empty and pressure relieve the tank and follow the requirements in federal regulation 49 CFR, Part 173.315(m)(2) for V,T,P testing/markings.
16	Incorrect/illegible break-away coupling device connection/disconnection instructions.	Make sure that connection/disconnection instructions match the brand/model of break-away coupling device, fully legible near the break-away coupling device. Pioneer break-away coupling devices: Both aluminum ring and decal instructions are required.

The MDA strongly recommends that self-inspections be conducted and non-compliance corrected.

NOTE: The Pioneer break-away coupler has a replacement date stamp and decal. The manufacturer states "Discard and replace the coupler and/or nipple 3 years after installation or after the date shown on the product, whatever is earlier." Beginning in 2015, the MDA will inspect Pioneer break-away couplers for replacement dates. Orders directing replacement will be issued when Pioneer break-away couplers are found at or beyond the stamped/decalled replacement date.

MDA Contacts

Ed Kaiser 651-201-6275 Ed.Kaiser@state.mn.us	Jeff Lorentz Central, S.E. Minnesota 320-223-6547 Jeffrey.Lorentz@state.mn.us	Bob Rialson Southwest Minnesota 507-746-4483 Bob.Rialson@state.mn.us	Jim Freilinger West Central, N.W., Minnesota 320-243-7382 Jim.Freilinger@state.mn.us
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