



Fertilizer Safety & Security Council
Conseil de la sécurité en fertilisation

AMMONIA CODE OF PRACTICE FREQUENTLY ASKED QUESTIONS

Environmentally sensitive areas as per Protocol A1.1

Question: How is an environmentally sensitive area defined and how does that affect the location of storage tanks?

Answer: An environmentally sensitive area is a lake, stream, wetland etc that contains some wildlife. Ammonia storage tanks commissioned since January 2009 must be at least 50 metres from an environmentally sensitive area. A ditch that tends to run wet or a dugout is not considered an environmentally sensitive area.

Site power and lighting as in Protocol A4, A5

Question: Do ammonia storage facilities require electrical power?

Answer: A site with a security system requires a full time power source. Gas powered generators are not acceptable for an alarmed security system. Fencing is also required for site security.

A gas generator or another non-full time power supply source (i.e. solar) is sufficient for lighting for protocol A5. When operators/delivery drivers arrive at night, they may initially need to use their headlights to locate the power source and start it up to activate the facility lights. All lighting must be illuminated prior to any loading and lighting.

Fencing as in Protocol A4.1

Question: Can a wall of a building be considered as part of the fence area around an ammonia storage site if the fence abuts either side of the wall?

Answer: Yes, as long as the wall of the building meets or exceeds the security capability of the fence.

24 hour phone line as in Protocol: A7

Question: To meet the requirement for a sign at an ammonia storage facility listing the nearest location of a 24-hour public phone, is the wording “nearest land line” followed by the location acceptable?

Answer: Yes, any indication of the location of land line telephone is acceptable. The intent is to indicate the nearest 24-hour phone. A nearby farmhouse with a light on would be acceptable.

Storage tank identification numbers as in Protocol B.1

Question: What if the required Canadian Registration Number (CRN) or ASME numbers are not present or legible on a tank?

Answer: Ask the owner or the leaser of the tank for the information but don't load it until a valid number is determined. The intent of the code is that pressure vessels comply with regulatory requirements, and generally a CRN is easily auditable evidence of that. Local regulatory authorities must approve imported tanks.

Question: What are the codes/regulation for compliance storage tank maintenance and testing regulations?

Answer: Generally the pressure vessel regulations for the province, of which most refer to CSA B51 and ANSI K61.1.

Question: What if the data plates on tanks are in poor condition or are illegible?

Answer: A new plate could be made if there is sufficient readable data on the existing plate. If not, the regulatory authority needs sufficient information to create a new plate. It can also provide additional information about the requirements for pressure vessels. Tanks require data plates otherwise they cannot be properly inspected and tested. If no records are available, perhaps it is time to retire the unit.

Shut off valves as in Protocol B2.1 ISC lines

Question: Should the trip cables for ICS lines be equipped with fusible links?

Answer: Yes.

Question: Protocol B2.1 states that all storage vessels must be equipped with a positive emergency shut-off valve on all lines. Does “all lines” mean liquid and vapour?

Answer: This describes a single lever to activate the liquid only lines which in most cases

will be connected to an ISC valve or Internal Self Closing Valve. The vapour lines will always only be equipped with excess flow valves. The protocol should read “liquid lines” not all lines.

The code requirement is for a device that “provides immediate shutoff of flow from the vessel to liquid discharge.” It must also be able to be operated remotely. A snap type valve somewhere in the piping system would work. It would have to be located such that it would shut off flow to all liquid outlet points at once. Vapour lines DO NOT require ISC valves or ESVs.

Excess flow valves shut offs as in Protocol B2.12

Question: Must both liquid and vapour lines be equipped with emergency positive shut-off valves that are designed and constructed to activate automatically in the event of a pull away? Does this include both liquid and vapour lines?

Answer: Yes, for these additional points the dealer will be required to have the shutdown devices on all liquid and vapour valves at both load-in and load-out bays.

Piping as in Protocol B2.9

Question: Is there a way you can visually tell the difference between a Schedule 40 and Schedule 80 pipe?

Answer: No, they are the same outside diameter, just different wall thickness. The raw material is marked with the schedule but those markings are obscured once painted. The only way to tell once assembled is with an ultrasonic thickness tester. This will be difficult for people to comply with if they don't already have documentation saying so. Note that this is a code requirement in B620 for transport vessels (5.2.2.3(e)), so B620 compliance certification would satisfy the code on B2.9.

Hose testing as in Protocols B3.5, C3.5, C12.5

Question: Who can test hoses?

Answer: Requirements for testing hoses according to CSA B620 standard are referenced in the TDG regulations. There are no special qualification requirements as far as who tests a hose. B620 does specify the test method, and there is a requirement to mark the hoses once they have been tested.

Belt Guards as in Protocol B4.2

Question: To what extent must guards be installed on transfer pumps/compressors?

Answer: No where should anyone be able to come in contact with the pulleys or the belts which includes the top, bottom and sides.

Measurement Devices as in Protocols B5, C5

Question: Is annual testing of measurement devices required?

Answer: Annual testing is not required. This is an error in the implementation guide. Annual testing is a recommended best practice.

Bleed-off of tanks as in Protocol B7

Question: On Page 116 of the implementation guide, it states that “Lines from all bleed-off locations are routed and plumbed into the tank in order to ensure contact with water.” Does this mean both liquid and vapour lines?

Answer: This refers only to liquid lines.

Respirators as in Protocol B9.1

Question: Are cartridges acceptable?

Answer: Canisters or cartridges are acceptable.

Wind indicators as in Protocol B9.8

Question: Can flags be used as wind indicators?

Answer: Yes.

Grounding tanks as in Protocol B10.1

Question: Are tanks sitting in steel saddles considered grounded even if the tanks are grounded?

Answer: The best practice is to ground each tank according to The Canadian Electrical Code, which says that grounding connections must be for grounding only and not for any other use.

Maintenance of farmer-owned equipment as in Protocols C10, C12

Question: Do farmer owned tanks require regularly scheduled maintenance?

Answer: Yes. All tanks must meet regulatory requirements before they can be filled. Proof that tanks are qualified for use is the B-620 documents that show inspecting and testing is completed.

Locks on mobile equipment as in Protocols C17.1, C9.1

Question: Where are locks to be installed on nurse tanks and delivery units?

Answer: Locks on nurse wagons should be located on the main withdrawal liquid valve.

Customer education as in Protocol C17.5

Question: How often do letters have to be given to farmers?

Answer: The best practice is once a year, i.e. an annual documented review with farm customers.

Tank markings as on Protocol B6, C6.7, C13.7

Question: Must markings be on the tank or it is acceptable to have some marking on the cab of delivery units?

Answer: All required marking must be on the tank, nurse wagon tanks and tanks on delivery units. The only exception is emergency contact phone numbers. On delivery truck, emergency contact numbers can be on the truck cab door. These must be clearly visible from a distance. For nurse tanks, emergency contact phone numbers must be on the tank.

Fire extinguishers as in Protocol C7.2

Question: What are the regulations for fire extinguishers on delivery units?

Answer: All delivery units should have appropriate fire extinguishers.

Parking and storage of mobile equipment as in Protocols C9.2, C9.3, C17.2 –

Question: Can a loaded delivery unit be stored at a location that is not certified? Is a company's AWSA site acceptable?

Answer: It's permitted within 500 metres of evacuation sensitive occupancies as spelled out in Protocol A1.1. All valves must be secured if it is not in a fenced compound. Storage in towns is prohibited unless at a compliant site or in maintenance.

TDG training as in Protocol D3

Question: Do clerical staff require ammonia training?

Answer: Yes, if they are in anyway involved in processing or handling it.

Emergency shutdown as in Protocol G1.1

Question: Section G1.11 refers to indicating the location of an emergency electrical shutdown point. Do we need an emergency stop button, or external shutoff switch at the site?

Answer: A site only has to identify the location of the shut off to power, gas or propane. An emergency shut down device is not necessary. The protocol only requires that you can demonstrate where you can shut down power/fuel sources in an emergency.

Emergency Response Assistance Plan as in Protocol: G1.7 –

Question: How do we know if an ERAP is applicable? What sort of documentation are we looking for?

Answer: All shipments of ammonia must be covered by an ERAP. Some retailers use the product supplier's number, some have their own. Either way, all shipments in and out of the plant must be covered on the road or rail by an ERAP. The number will be on documentation such as Bill of lading and Multiple Delivery Sheets. Section 1.24 of the TDG regulations requires ERAP for containers greater than 10,000 litres.

Other things you should know

Safety release valves

Question: Are safety release valves necessary between all valves?

Answer: Thermal relief valves, also called hydrostatic relief valves, are required in all sections of piping that can be blocked in, to prevent over pressure of the piping. They are required between ANY sections of piping that can be isolated.

Piping - Plumbing on ammonia delivery trucks

Question: Can Schedule 40 piping with welded connections as part of the plumbing system in a truck? Section C2.8 of the Code says that the best practice is to standardize to Schedule 80.

Answer. Schedule 40 complies as long as it is welded and not threaded. The reason for the best practice of Schedule 80 is that it eliminates threaded Schedule 40 automatically, whether by accident (wrong schedule used during fabrication) or later modification.

Tank paperwork

Question: Who is responsible for ensuring the paperwork on storage tanks is ready for an audit?

Answer: A site auditor should find all the paper readily available and not have to see it out. The owner or operator has to sort this out ahead of time if they want the time declared safe for continued use.

AMMONIA CODE HOTLINE

Retailers can call toll-free (866) 311-0444 or direct (416) 260-2432 from 9a.m. to 5p.m. eastern time to speak with a representative about technical details of the code, its implementation schedule and auditing requirements.