	2022 Proposed Code Text	2017 Code Text
Section A	**SECTION A – SITING AND EXTERIOR REQUIREMENTS** This section applies to the following ammonia storage and handling operations: • **Fixed Storage Operations –** are defined as a storage vessel supported on the ground by a foundation system. The foundation system can be permanent or temporary in nature. • **Anhydrous Ammonia Equipment Storage Operations –** are defined as an area where anhydrous ammonia vessels, with a combined aggregate volume greater than 10,000 liters, are stored for a period greater than 72 hours. Storage areas where all the vessels have been emptied and de-pressured will be exempt from inclusion in this definition. • **Railcar Transload Operations –** are defined as anhydrous ammonia operations utilized for the loading and off-loading of railcars.	**SECTION A – SITING AND EXTERIOR REQUIREMENTS** This section applies to the following ammonia storage and handling operations: • **Fixed Storage Operations –** are defined as a storage vessel supported on the ground by a foundation system. The foundation system can be permanent or temporary in nature. • **Anhydrous Ammonia Equipment Storage Operations –** are defined as an area where anhydrous ammonia vessels, with a combined aggregate volume greater than 10,000 liters, are stored for a period greater than 72 hours. Storage areas where all the vessels have been emptied and de-pressured will be exempt from inclusion in this definition. • **Railcar Transload Operations –** are defined as anhydrous ammonia operations utilized for the loading and off-loading of railcars.
A.1	**A.1 SITING REQUIREMENTS – DISTANCE FROM PEOPLE**	**A.1 SITING REQUIREMENTS – DISTANCE FROM PEOPLE**
A.1.1	**A.1.1 NEW AND EXPANDED ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATIONS** **A.1.1.1 NEW SITES** The minimum distances from occupancies for siting an anhydrous ammonia storage and handling operation certified under the Ammonia Code of Practice on or after January 1, 2011 are (refer to Figures in the User Guide): (a) 1.5 kilometers from the border of a City, Town, Village or Hamlet, or from Evacuation-Sensitive facilities such as hospitals, schools, residential developments or senior citizens homes; and	**A1.1 NEW ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATIONS** The minimum distances from occupancies for siting an anhydrous ammonia storage and handling operation certified under the Ammonia Code of Practice on or after January 1, 2011 are: (a) 1.5 Kilometers from the border of a city, town, village or hamlet, or from evacuation-sensitive facilities such as hospitals, schools, residential developments or senior citizens homes; and (b) 500 meters from any occupancy (e.g. a rural residence or a small business; and

(b) 500 meters from any occupancy (e.g. a rural residence or a small business, occupancy is defined in Section A1 of the User Guide); and

(c) 50 meters from an environmentally sensitive area (lake, stream, wetland etc.); and

Approval from the local authority having jurisdiction is also required.

Compliance will be indicated by documentation such as dated facility plans demonstrating the required distances, and local authority approval documentation.

Recommended Best Practices: Locate new anhydrous ammonia storage and handling operations a minimum of 3.0 kilometers from the boundary of a city, town, village, hamlet or evacuation sensitive facilities.

A.1.1.1 Audit Requirements	**Y/N**
Meets or exceeds Minimum Distance from community	
Meets or exceeds Minimum Distance from residence	
Meets or exceeds Minimum Distance from environmentally sensitive areas	
Documentation showing approval from local authority	
Meets Best Practices Requirements – Anhydrous ammonia operations are over 3 km from the boundary of a city, town, village, hamlet or evacuation sensitive facilities	
Comments	

A.1.1.1 EXPANSION AT EXISTING SITES

Capacity expansion at existing certified ammonia sites that are within the setback distances outlined in A.1.1.1 (grandfathered or municipally encroached sites) will require

(c) 50 meters from an environmentally sensitive area (lake, stream, wetland etc.); and

Approval from the local authority having jurisdiction is also required.

Compliance will be indicated by documentation such as dated facility plans demonstrating the required distances, and local authority approval documentation.

~~The~~ recommended best practice ~~is to~~ locate new anhydrous ammonia storage and handling operations a minimum of 3.0 kilometres from the boundary of a city, town, village, hamlet or evacuation-sensitive facilities.

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<td>
a) Preapproval by Fertilizer Canada
b) Equipment and measures as outlined in the Anhydrous Ammonia Code of Practice Renovation Policy
c) Approval from the local authority having jurisdiction
Compliance will be indicated by documentation such as dated facility plans and approvals demonstrating the required equipment, and local authority approval documentation.
<table>
<tr><th>A.1.1.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Preapproval Documentation</td><td></td></tr>
<tr><td>Documentation showing approval from local authority</td><td></td></tr>
<tr><td>Meets equipment and best practice requirements as specified in the Anhydrous Ammonia Code of Practice Renovation Policy</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
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</tr>
<tr>
<td>A.1.2</td>
<td>
A.1.2 ALL OPERATIONS LESS THAN 500 METRES FROM POPULATION CONCENTRATIONS OR LESS THAN 100 METRES FROM ANY OCCUPANCY
All anhydrous ammonia storage and handling operations located less than 500 metres from the boundary of a city, town, village, hamlet or from an evacuation-sensitive facility (e.g. hospital, school or senior citizens home), or less than 100 metres from any occupancy (e.g. rural residence).
In order to minimize the risk to people from an accidental release of anhydrous ammonia, the following measures are required:
(a) Where loading and unloading is conducted at the operation, pull-away protection shall be installed on liquid and vapour hose connections (both in load and out load).
</td>
<td>
A1.2 ALL OPERATIONS LESS THAN 500 METRES FROM POPULATION CONCENTRATIONS OR LESS THAN 100 METRES FROM ANY OCCUPANCY
All anhydrous ammonia storage and handling operations located less than 500 metres from the boundary of a city, town, village, hamlet or from an evacuation-sensitive facility (e.g. hospital, school or senior citizens home), or less than 100 metres from any occupancy (e.g. rural residence)~~:~~
In order to minimize the risk to people from an accidental release of anhydrous ammonia, the following measures are required:
(a) Where loading and unloading is conducted at the operation, pull-away protection shall be installed on liquid hose connections (both in load and out load).
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<td>All sites are required to have pull-away protection installed on <u>both</u> liquid and vapour hose connections (both in load and out load).

Compliance will be indicated by inspection of the equipment and demonstration of functionality.

<table>
<tr><td>A.1.2 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>Pull-away protection installed (in load and out load)</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>All sites are required to have pull-away protection installed on <u>both</u> liquid and vapour hose connections (both in load and out load)

Compliance will be indicated by inspection of the equipment and demonstration of functionality.

~~(b) Additional security precautions shall be installed at the operation including:~~

~~• If fencing is in place, all fencing must be topped by three strands of barbed wire.;~~

~~AND~~

~~• Some form of security lighting~~

~~Compliance will be indicated by inspection of the equipment and demonstration of functionality~~</td>
</tr>
<tr>
<td>A.1.3</td>
<td>A.1.3 COMMUNICATION WITH LOCAL PEOPLE

This protocol applies to all ammonia operations covered by Section A of this Anhydrous Ammonia Code.

To ensure that members of the public located near ammonia operations are adequately informed and aware of emergency procedure, the following measures are required:

(a) Annual contact with people within 3.0 kilometers:
• Communication must inform people of the presence of an ammonia operation, and the communication process to be used in the event of an emergency.
• Communication shall be in writing.

Compliance will be indicated by inspection of the list of local stakeholders and dated copies of the required written materials.

(b) Annual contact with people within 1.5 kilometers:
• Communication must include information on the nature and hazards of ammonia.
• Communication must include information on basic emergency response procedures</td>
<td>A1.3 COMMUNICATION WITH LOCAL PEOPLE

This protocol applies to all ammonia operations covered by Section A of this Code.

To ensure that members of the public located near ammonia operations are adequately informed and aware of emergency procedure, the following measures are required:

(a) Annual contact with people within 3.0 kilometers:
• Communication must inform people of the presence of an ammonia operation, and the communication process to be used in the event of an emergency.
• Communication shall be in writing.

Compliance will be indicated by inspection of the list of local stakeholders and dated copies of the required written materials.

(b) Annual contact with people within 1.5 kilometers:
• Communication must include information on the nature and hazards of ammonia.
• Communication must include information on basic emergency response procedures including contact</td>
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<td>including contact numbers, and both shelter-in-place and evacuation procedures.

Compliance will be indicated by inspection of the list of local stakeholders and dated copies of the required written materials.

(c) Review of emergency response plan with people within 500 metres:
• Local people within 500 metres must be invited annually to a review session of the emergency response plan as it applies to those people.

Compliance will be indicated by inspection of the list of local stakeholders and dated copies of the required written materials.

<table>
<tr><th>A.1.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Dated copies of communication showing people within 3.0 km were informed of the presence of an ammonia operation and the communication to be used in the event of an emergency</td><td></td></tr>
<tr><td>Dated copies of communication showing people within 1.5 km were informed on the nature and hazards of ammonia and on basic emergency response procedures</td><td></td></tr>
<tr><td>Communications included all local stakeholders (within 3.0 and 1.5 km)</td><td></td></tr>
<tr><td>List of stakeholders within 500 m that were invited to attend the annual review of the emergency response plan and copies of written materials presented</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>numbers, and both shelter-in-place and evacuation procedures.

Compliance will be indicated by inspection of the list of local stakeholders and dated copies of the required written materials.

(c) Review of emergency response plan with people within 500 metres:
• Local people within 500 metres must be invited annually to a review session of the emergency response plan as it applies to those people.

Compliance will be indicated by inspection of the list of local stakeholders and dated copies of the required written materials.</td>
</tr>
<tr>
<td>A2</td>
<td>A2 DISTANCE FROM ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATION TO ROADWAY OR RAILWAY

The anhydrous ammonia storage and handling operation complies with the setback distances as prescribed by Provincial</td>
<td>A2 DISTANCE FROM ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATION TO ROADWAY OR RAILWAY

The anhydrous ammonia storage and handling operation complies with the setback distances as prescribed by Provincial or</td>
</tr>
</table>

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<td></td>
<td>or Federal regulations. Consult Federal and/or Provincial regulations regarding setback distances.

Compliance will be indicated by an appropriate licence or permit from the authority having jurisdiction or evidence of compliance presented by the Owner / Operator or person responsible (refer to the User Guide for examples of acceptable evidence).

<table>
<tr><th>A.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Current licence from the authority having jurisdiction or evidence of compliance presented by the Owner / Operator or person responsible</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
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</td>
<td>Federal regulations. Consult Federal and/or Provincial regulations regarding setback distances.

Compliance will be indicated by an appropriate licence or permit from the authority having jurisdiction or evidence of compliance presented by the ~~owner~~ or person responsible.</td>
</tr>
<tr>
<td>A3</td>
<td>A3 DISTANCE FROM ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATIONS TO ENVIRONMENTALLY SENSITIVE AREAS

Anhydrous ammonia operations must have measures in place to prevent contamination of environmentally sensitive areas such as rivers, lakes, streams and wetlands.

If the anhydrous ammonia storage and handling operation is located closer than 100 meters from environmentally sensitive areas, means of containment must be present to control and contain emergency run-off water. This may be achieved by utilizing sandbags to plug a culvert in a drainage ditch around the operation in emergency situations.

Compliance will be indicated by the examination of a runoff containment plan.

<table>
<tr><th>A.3 Audit Requirements (for sites within 100 m of an environmentally sensitive area)</th><th>Y/N</th></tr>
<tr><td>If yes: There is a means of containment present to control and contain emergency run-off water</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>A3 DISTANCE FROM ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATIONS TO ENVIRONMENTALLY SENSITIVE AREAS.

Anhydrous ammonia operations must have measures in place to prevent contamination of environmentally sensitive areas such as rivers, lakes, streams and wetlands.

If the anhydrous ammonia storage and handling operation is located closer than 100 meters from environmentally sensitive areas, means of containment must be present to control and contain emergency run-off water. This may be achieved by utilizing sand bags to plug a culvert in a drainage ditch around the operation in emergency situations.

Compliance will be indicated by the examination of a runoff containment plan.</td>
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A4	**A4 SECURITY FOR ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATIONS** The anhydrous ammonia storage and handling operation complies with the applicable requirements of the site security protocol.	**A4 SECURITY FOR ANHYDROUS AMMONIA STORAGE AND HANDLING OPERATIONS** The anhydrous ammonia storage and handling operation complies with the applicable requirements of the site security protocol.
A.4.1	**A4.1 Anhydrous Ammonia Storage and Handling Security Fencing:** The anhydrous ammonia storage and handling operation must incorporate measures to prevent unauthorized access to the product. All ammonia pressure vessels (stationary and/or mobile) and piping systems are secured within a security fence with lockable security gates. The minimum requirements for fencing of new sites, commissioned after January 1, 2019, is 6' chain link with a barbed wire top. Existing ammonia Code-compliant sites using fencing, as the primary means of site security / compliance with this Protocol, can continue to use either a 5-foot wire fence topped with three-strand barb wire or 6-foot chain link, with or without three strands of barbed wire. *Compliance will be indicated through site inspection to verify the presence of required security measures.*	**A4.1** The anhydrous ammonia storage and handling operation must incorporate measures to prevent unauthorized access to the product. ~~Acceptance measures include one or more of the following:~~ ~~**Fencing** –~~ Ammonia ~~equipment is~~ secured within a security fence and lockable security gates. ~~Minimum height for fencing is 6 feet. Fencing can be~~ either 5-foot wire fence topped with three-strand barb wire or 6-foot chain link, with or without three strands of barbed wire. ~~– OR –~~ ~~Valve and Tank Securement – All liquid valves that provide primary access to anhydrous ammonia as a means of containment have been physically secured with a valve lock. There must also be physical measures taken to prevent unauthorized removal of portable anhydrous ammonia storage vessels.~~ ~~– OR –~~ ~~Other Physical Means of Security – Other acceptable means of security include intrusion detection systems, security presence or surveillance. There must also be physical measures taken to prevent unauthorized removal of portable anhydrous ammonia vessels.~~ *Compliance will be indicated through site inspection to verify the presence of required security measures.*

A.4.1 Audit Requirements	**Y/N**
Security fencing and lockable gates in place	
Site commissioned before January 1, 2019 – has 5-foot wire fencing with three-strand barbed wire or 6-foot chain link fencing with or without three strands of barbed wire.	
Site commissioned after January 1, 2019 – has 6-foot chain link fencing with a barbed wire top	
All vessels containing products are stored within the fenced area	
Comments	

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<td>A4.2</td>
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A4.2 Unattended Storage Site Inspections

Unattended sites must be inspected every two weeks while unattended.

Compliance will be indicated by examination of completed inspection check sheets.

<table>
<tr><th>A4.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Check sheets show inspections every two weeks while unattended</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
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<td>

A4.2

Unattended sites must be inspected every two weeks while unattended.

Compliance will be indicated by examination of completed inspection check sheets.

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<tr>
<td>A5</td>
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A5 OPERATIONAL LIGHTING

The anhydrous ammonia storage and handling operation is equipped with sufficient lighting to allow for the safe transfer of anhydrous ammonia during night-time operations.

All points around the storage vessels where anhydrous ammonia is transferred require dedicated lighting sufficient for work to be done safely.

Compliance will be indicated through the presence of required operational lighting.

<table>
<tr><th>A.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Lighting is operational and is directed at all points around the storage vessels where ammonia transfer is required</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
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<td>

A5 OPERATIONAL LIGHTING

The anhydrous ammonia storage and handling operation is equipped with sufficient lighting to allow for the safe transfer of anhydrous ammonia during night-time operations.

~~A5 Minimum Requirements~~

All points around the storage vessels where anhydrous ammonia is transferred required dedicated lighting sufficient for work to be done safely.

Compliance will be indicated through the presence of required operational lighting.

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<td>A6</td>
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A6 EMERGENCY EXITS

The storage vessel area is constructed in a manner to provide adequate emergency exits for personnel in case of a release of ammonia.

If the storage vessel is enclosed within a security fence, there must be at least two escape exits located to provide options for

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A6 EMERGENCY ~~EGRESS~~

The storage vessel area is constructed in a manner to provide adequate emergency ~~egress~~ for personnel in case of a release.

~~A6 Fences~~

If the storage vessel is enclosed within a security fence, there must be at least two escape exits located to provide options for

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<td>escape regardless of wind direction. An exit route with a minimum width of one (1) metre leading to exits in the fence must be functional and kept clear of obstructions at all time. The main gate may function as one of these exits.

Compliance will be indicated through a visual inspection of the means of emergency exit.

<table>
<tr><th>A.6 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Two escape exits each at least 1 m width provide options for escape from within security fence around storage vessel(s) regardless of wind direction.</td><td></td></tr>
<tr><td>Exits are clear of obstructions and are tested to be functional.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
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</td>
<td>escape regardless of wind direction. An exit route with a minimum width of 1 metre leading to exits in the fence must be kept clear at all time. The main gate may function as one of these exits.

Compliance will be indicated through a visual inspection of the means of emergency egress</td>
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<td>A7</td>
<td>A7 FACILITY SIGNAGE

The anhydrous ammonia storage and handling operation is equipped with required warnings and emergency response signage.

The following information must be located at the entrance to the site:
A7.1 Caution/Danger Anhydrous Ammonia
A7.2 Authorized Personnel Only
A7.3 No Smoking or Open Flames (both statements or both pictograms are required)
A7.4 After hours and daytime emergency contact numbers including company and emergency services
A7.5 Signs must be equipped with letters on a contrasting background that makes the sign legible to approaching emergency services.

Compliance will be indicated through a visual inspection of the signage.</td>
<td>A7 FACILITY SIGNAGE

The anhydrous ammonia storage and handling operation is equipped with required warnings and emergency response signage.

~~A7 Minimum Requirements~~
The following information must be located at the entrance to the site:
A7.1 Caution/Danger Anhydrous Ammonia
A7.2 Authorized Personnel Only
A7.3 No Smoking or Open Flames (both statements are required)
A7.4 ~~Nearest location of publically accessible phone~~
A7.~~5~~ After hours and daytime emergency contact numbers including company and emergency services
A7.~~6~~ Signs must be equipped with letters on a contrasting background that makes the sign legible to approaching emergency services.</td>
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</table>

	A.7 Audit Requirements | **Y/N** Required signage present at entrance to site Comments	*Compliance will be indicated through a visual inspection of the signage.*
A8	**A8 HOUSEKEEPING INSPECTIONS** The ammonia operation shall have a written housekeeping inspection process (see examples in the User Guide). The process shall include all of the following elements: (a) A list of locations and areas to be inspected (b) Who is responsible for performing housekeeping inspections (c) Inspection frequency; and (d) A system for recording the results of inspections and for following up on corrective actions *Compliance will be indicated by examination of the written procedure and records of completed housekeeping inspections.* **A.8 Audit Requirements** | **Y/N** Written housekeeping process has required elements Housekeeping process includes records showing date of inspections and who conducted the inspection Comments	**A8 HOUSEKEEPING** ~~**A8 Housekeeping**~~ The ammonia operation shall have a written housekeeping ~~program~~. The ~~program~~ shall include all of the following elements: (a) A list of locations and areas to be inspected; (b) Who is responsible for performing housekeeping inspections; (c) Inspection frequency; and (d) A system for recording the results of inspections and for following up on corrective actions. *Compliance will be indicated by examination of the written procedure and records of completed housekeeping inspections.*
	SUMMARY FOR SECTION A **TO BE COMPLETED BY THE AUDITOR** **SECTION A** | **Yes/No** **All Mandatory Items Are Present** **Meets Best Practices** | **/1**	**SUMMARY ~~SCORE~~ FOR SECTION A** **TO BE COMPLETED BY THE AUDITOR** **SECTION A** | ~~**Items/Points**~~ | ~~**Pass Mark Items/Points**~~ | ~~**Actual Score**~~ ~~**Mandatory Items**~~ | ~~**11**~~ | ~~**11**~~ | ~~(must be 100% compliant on~~

					~~Mandatory Items)~~
		~~**Points Items**~~	~~**100 points**~~	~~**80 points**~~	~~(must be 80% compliant on Point Items)~~
SECTION B	**SECTION B – STORAGE VESSEL AND EQUIPMENT** This section contains the standards for managing risks associated with an anhydrous ammonia storage vessel. Storage vessels are defined as fixed tanks designed according to Federal and/or Provincial regulations used for permanent or temporary storage of anhydrous ammonia (excluding units covered by Transportation of Dangerous Goods requirements).				**SECTION B – STORAGE VESSEL AND EQUIPMENT** This section contains the standards for managing risks associated with an anhydrous ammonia storage vessel. Storage vessels are defined as fixed tanks designed according to Federal and/or Provincial regulations used for permanent or temporary storage of anhydrous ammonia (excluding units covered by Transportation of Dangerous Goods requirements).
B1	**B1 STORAGE VESSEL DESIGN AND CONSTRUCTION** All anhydrous ammonia storage vessels have been designed, constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations/ Standards.				**B1 STORAGE VESSEL DESIGN AND CONSTRUCTION** All anhydrous ammonia storage vessels have been designed, constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.
B.1.1	**B.1.1 Storage Vessel Construction:** The storage vessel at the anhydrous ammonia operation has been designed and constructed in accordance with the applicable codes and has a Canadian Registration Number (CRN). Consult Provincial Boiler and pressure Vessel Regulations for applicable Code requirements. *Compliance will be indicated by inspection of the data plate on the vessel for the CRN or indicated on a U1A form.*				**B1.1** The storage vessel at the anhydrous ammonia operation has been designed and constructed in accordance with the applicable codes, and has a Canadian Registration Number (CRN). Consult Provincial Boiler and pressure Vessel Regulations for applicable code requirements. *Compliance will be indicated by inspection of ~~a~~ data plate on the vessel ~~and evidence of a~~ CRN.*

B.1.1 Audit Requirements	**Y/N**
Anhydrous storage vessels have been designed and constructed in accordance with the applicable codes and has a Canadian Registration Number (CRN)	

	Inspection of the data plate on the vessel for the CRN or indicated on a U1A form indicates compliance Comments	
B.1.2	**B.1.2 Storage Vessel Supports:** The supports for the anhydrous ammonia storage vessel and piping are constructed of non-combustible materials. Foundation systems shall not pose a fire hazard. *Compliance will be indicated by a visual inspection of the foundation and support structure to determine if it is constructed of non-combustible construction (concrete or steel).* **B.1.2 Audit Requirements** — **Y/N** Anhydrous ammonia storage vessel(s) and piping supports are constructed of non-combustible materials Foundation systems do not pose a fire hazard Comments	**B1.2** The supports for the anhydrous ammonia storage vessel and piping are constructed of non-combustible materials. Foundation systems shall not pose a fire hazard. *Compliance will be indicated by a visual inspection of the foundation and support structure to determine if it is constructed of non-combustible construction (concrete or steel).*
B.1.3	**B.1.3 Storage Vessel Maintenance & Testing:** Regular and scheduled maintenance and testing is performed as required by Provincial Codes and Regulations. *Compliance will be indicated through a visual inspection of inspection, testing and repair documentation. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.* **B.1.3 Audit Requirements** — **Y/N** Visual inspection, testing and repairs are completed and documented as required by Provincial Codes and Regulations Comments - What evidence was provided?	**B1.3** Regular and scheduled maintenance and testing is performed as required by ~~c~~odes and ~~r~~egulations. *Compliance will be indicated through a visual inspection of inspection, testing and repair documentation. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.*

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B2 STORAGE VESSEL VALVES, PIPING AND GAUGES

All valves, piping and gauges at the anhydrous ammonia storage and handling operation have been designed, constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations/ Standards.

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B2 STORAGE VESSEL VALVES, PIPING AND GAUGES

All valves, piping and gauges at the anhydrous ammonia storage and handling operation have been designed, constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.

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<td>B.2.1</td>
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B.2.1 Storage Vessel Emergency Shut-off Valves

All storage vessels must be equipped with a positive emergency shut-off valve to stop the flow of product from the vessel in an emergency on all liquid lines except inlet lines equipped with check valves.

- The emergency shut off must be able to be operated from both opposing ends of the storage vessel
- Mechanical activating levers or devices for the emergency shut-off must be colour-coded blue
- Electronic/Wireless Emergency Shut-off system activation devices shall be a red button with either a blue or yellow background labeled Emergency Stop

Compliance will be indicated through a visual inspection of the vessel to determine the presence of an emergency shut-off system.

Recommended Best Practices: The emergency shut-off should be able to be operated from multiple locations to ensure access in case of a release. Recommended best practice is to use an Internal Safety Control Valve (ISC) as the emergency shut-off.

<table>
<tr><th>B.2.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All liquid lines except inlet lines equipped with check valves have a positive emergency shut-off valve.</td><td></td></tr>
<tr><td>Emergency shut-off valves must be able to be operated from both opposing ends of the storage vessel.</td><td></td></tr>
<tr><td>Mechanical activation levers or devices for the emergency shut-off valve are colour-coded blue</td><td></td></tr>
</table>

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B2 ~~Valves on Storage Vessel – Minimum Requirements:~~

B2.1

All storage vessels must be equipped with a positive emergency shut-off valve to stop the flow of product from the vessel in an emergency on all liquid lines except inlet lines equipped with check valves.

~~Best practice is that t~~he emergency shut-off should be able to be operated from multiple locations to ensure access in case of a release. Recommended best practice is to use an Internal Safety Control Valve (ISC) as the emergency shut-off.

Compliance will be indicated through a visual inspection of the vessel to determine the presence of an emergency shut-off system.

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	Electronic/Wireless Emergency Shut-off system activation devices shall be a red button with either a blue or yellow background labeled Emergency Stop Meets Best Practices Requirements - Internal Safety Control Valve (ISC) is used for the emergency shut-off Comments	
B.2.2	**B.2.2 Storage Vessel Excess Flow Valves:** All storage vessels are equipped with excess flow valves for changes in pipe diameter. *Compliance will be indicated through documentation from the current Owner / Operator or person responsible indicating that excess flow valves are correctly sized.* **B.2.2 Audit Requirements** — **Y/N** All storage vessels are equipped with excess flow valves for changes in pipe diameter The excess flow valves on outlet lines have been correctly sized in accordance with the restriction of the piping system to ensure effective operation Comments	**B2.2** All storage vessels are equipped with excess flow valves ~~that have been correctly sized in accordance with the restriction of the piping system to ensure effective operation of the excess flow valve~~. *Compliance will be indicated ~~through a signed and dated requirements list~~ from the current ~~owner~~ or person responsible indicating ~~the presence of appropriately sized excess flow valves in the piping system~~.*
B.2.3	**B.2.3 Storage Vessel Piping Systems, Valves & Fittings** All piping systems, valves and fittings are suitable for anhydrous ammonia service. *Compliance will be indicated through a signed and dated requirements list/ letter from the current Owner / Operator or person responsible indicating all piping systems, valves and fittings at the anhydrous ammonia operation are suitable for anhydrous ammonia service.* **B.2.3 Audit Requirements** — **Y/N**	**B2.3** All valves are suitable for anhydrous ammonia service. *Compliance will be indicated through a signed and dated requirements list from the current ~~owner~~ or person responsible indicating all valves at the anhydrous ammonia operation are suitable for anhydrous ammonia service.*

<table>
<tr><td></td><td><table><tr><td>Signed and dated requirements list/ letter indicating all piping systems, valves, and fittings are suitable for anhydrous ammonia service</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td></td></tr>
<tr><td>B.2.4</td><td>B.2.4 Storage Vessel Hose-end Valves

Hose-end valves have been constructed to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard to prevent accidental opening.

Compliance will be indicated through a visual inspection of hose end valves.

<table><tr><td>B.2.4 Audit Requirements</td><td>Y/N</td></tr><tr><td>Hose-end valves are constructed to prevent accidental opening</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>B2.4

Hose-end valves have been constructed ~~and/or guarded~~ to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard.

Compliance will be indicated through a visual inspection.</td></tr>
<tr><td>B.2.5</td><td>B.2.5 Storage Vessel Safety Relief Valves

Safety relief valves shall conform to applicable Regulations.

Compliance will be indicated through a signed and dated requirements list/ letter from the current Owner / Operator or person responsible indicating all Safety Relief Valves conform to the applicable Regulations.

<table><tr><td>B.2.5 Audit Requirements</td><td>Y/N</td></tr><tr><td>Safety relief valves conform to applicable Regulations</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>B2.5

Safety relief valves shall conform to applicable Regulations.</td></tr>
</table>

B.2.6	**B.2.6 Storage Vessel Safety Valve Rain Caps** Safety relief valves shall be equipped with rain caps. *Compliance will be indicated through a visual inspection of the rain caps.* **B.2.6 Audit Requirements** | **Y/N** Safety relief valves are equipped with rain caps | Comments	**B2.6** Safety relief valves shall also be equipped with ~~standpipes (typically 36 inches in length) and~~ raincaps. ~~Pipes should be adequately supported to prevent damage due to wind.~~
B.2.7	**B.2.7 Storage Vessel Safety Relief Valve Certification** Safety relief valves must be changed at least every 5 years. *Compliance will be indicated through documentary evidence of safety relief valves change outs. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.* **B.2.7 Audit Requirements** | **Y/N** Documents available showing safety relief valves were changed at least every 5 years. | Comments	**B2.7** ~~The expiry date on the safety relief valves must not be exceeded.~~ *Compliance will be indicated ~~in two parts; first through a visual inspection of the raincapes and second~~ through documentary evidence of safety relief valves change outs. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.*
B.2.8	**B.2.8 Storage Vessel Hydrostatic Relief Valves** Hydrostatic relief valves have been installed in accordance with applicable regulatory requirements. The service life for the hydrostatic relief valves has not been exceeded. *Compliance will be indicated through a) a visual inspection of positioning of hydrostatic relief valves in the piping system and b) review of documentary evidence that service life has not been exceeded.* Recommended Best Practices: Best Practice is to have hydrostatic relief valve directed away from the operator or tubed to a safe discharge location.	**B2.8** Hydrostatic relief valves have been installed ~~to conform~~ with applicable ~~regulations~~. The ~~expire date for the~~ hydrostatic relief ~~valve must not be~~ exceeded. *Compliance will be indicated through a visual inspection of ~~the~~ positioning of ~~the~~ hydrostatic relief valves in the piping system~~,~~ and inspection of ~~documentation of valve changeouts within expiry dates. For valves stamped with manufacture dates, documentation will be examined to ensure the valves are changed out at the manufacturer's recommended frequency.~~*

	B.2.8 Audit Requirements | **Y/N** Hydrostatic relief valves have been installed in accordance with the regulatory requirements. Documentation shows that the service life for the hydrostatic relief valves has not been exceeded A visual inspection of positioning of hydrostatic relief valves in the piping system indicates compliance Meets Best Practices Requirements - Hydrostatic relief valves directed away from the operator or tubed to a safe discharge location Comments	
B.2.9	**B.2.9 Storage Vessel Piping** Piping systems on anhydrous ammonia storage vessels have been designed and constructed with Schedule 40 and/or Schedule 80 steel or stainless-steel pipe. All schedule 40 pipe has been inspected to ensure no threaded connections were used. All threaded connections must be constructed with a minimum of Schedule 80 pipe. *Compliance will be indicated by a signed and dated requirements list/ letter from the current Owner / Operator or person responsible indicating that all schedule 40 piping is welded and that all threaded connections are minimum schedule 80. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.* Recommended Best Practices: Best practice is to standardize all piping systems to a minimum of Schedule 80. **B.2.9 Audit Requirements** | **Y/N** Signed and dated requirements list/letter indicating:	**B2.9 Piping ~~on Storage Vessel~~** Piping systems on anhydrous ammonia storage vessels have been designed and constructed with Schedule 40 and/or Schedule 80 pipe. All schedule 40 pipe has been inspected to ensure no threaded connections were ~~made~~. All thread connections must be constructed with a minimum of Schedule 80 pipe. *Compliance will be indicated by a signed and dated requirements list from the current ~~owner~~ or person responsible indicating that all schedule 40 piping is welded and that all threaded connections are minimum schedule 80. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.* Best practice is to standardize all piping systems to a minimum of Schedule 80.

	• Piping systems are designed and constructed with Schedule 40 and/or Schedule 80 steel or stainless-steel pipe • all Schedule 40 pipe joints are welded. • All threaded connections are constructed with a minimum of Schedule 80 pipe Meets Best Practices Requirements – All piping systems are a minimum of Schedule 80 Comments	
B.2.10	**B.2.10 Storage Vessel Fittings** Forged steel, stainless steel, or malleable iron fittings are allowed for anhydrous ammonia piping if they are rated for the correct design pressure. No brass, copper, galvanized or zinc fittings shall be used. *Compliance will be indicated through a signed and dated requirements list/letter from the current Owner / Operator or person responsible indicating that all fittings have been sized and rated for pressures they will be exposed to in the piping system. The requirements list/letter will confirm that no brass, galvanized or zinc fittings have been used in the piping system.* **B.2.10 Audit Requirements** — **Y/N** Forged steel, stainless steel or malleable iron fittings are rated for the correct design pressure. No brass, copper, or galvanized zinc materials are used A signed and dated requirements list/letter Comments	**B2.10** Forged steel, stainless steel, or malleable iron fittings are allowed for anhydrous ammonia piping if they are rated for the correct design pressure. No brass, copper, galvanized or zinc fittings shall be used. *Compliance will be indicated through a signed and dated requirements list from the current ~~owner~~ or person responsible indicating that all fittings have been sized and rated for the pressures they will be exposed to in the piping system. The letter will also ~~indicate~~ that no brass, galvanized or zinc fittings have been used in the piping system.*
B.2.11	**B.2.11 Storage Vessel Colour Coding**	**B2.11**

<table>
<tr>
<td></td>
<td>All piping must be colour-coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-off devices.

Compliance will be indicated through a visual inspection of lines and devices to ensure proper colour-coding.

<table>
<tr><th>B.2.11 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All piping is colour-coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-off activation devices</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>All piping must be colour coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-off devices.

Compliance will be indicated through a visual inspection of lines and devices to ensure proper colour-coding.</td>
</tr>
<tr>
<td>B.2.12</td>
<td>B.2.12 Storage Vessel Liquid Piping System

The vessel liquid piping system is equipped with emergency positive shut-off valves that are designed and constructed to activate automatically in the event of a pull-away.

Compliance will be indicated through visual inspection of emergency shut-off devices for a pull-away and Owner / Operator demonstration of each pull-away station for proper function.

<table>
<tr><th>B.2.12 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The vessel liquid piping system is equipped with emergency positive shut-off valves</td><td></td></tr>
<tr><td>Demonstration of proper function for each pull-away station</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>B2.12

The vessel liquid piping system is equipped with emergency positive shut-off valves that are designed and constructed to activate automatically in the event of a pull-away.

Compliance will be indicated through visual inspection of emergency shut-off devices for a pull-away.</td>
</tr>
<tr>
<td>B.2.13</td>
<td>B.2.13 Storage Vessel Non-Stainless-Steel Flex Connectors:

Non-stainless-steel flex connectors when used for differential movement between components have been approved for anhydrous ammonia service and have been hydrostatically tested annually.</td>
<td>B2.13

Non-stainless steel flex connectors used for differential movement between components have been approved for anhydrous ammonia service and have been hydrostatically tested annually.

Best practice is to install braided stainless-steel flex pipe since it does not require an annual hydrostatic test.</td>
</tr>
</table>

<table>
<tr>
<td></td>
<td>

Compliance will be indicated through a visual inspection of connectors and of pressure testing documentation.

Recommended Best Practices: Best practice is to install braided stainless-steel flex pipe since it does not require an annual hydrostatic test.

<table>
<tr><th>B.2.13 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Non-stainless-steel flex connectors used for differential movement between components have been approved for anhydrous ammonia service</td><td></td></tr>
<tr><td>Annual hydrostatic testing of non-stainless-steel flex connectors is documented</td><td></td></tr>
<tr><td>Meets Best Practices Requirements - Braided stainless-steel flex pipe</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

Compliance will be indicated through a visual inspection of connectors and of pressure testing documentation.

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</tr>
<tr>
<td>B.2.14</td>
<td>

B.2.14 Storage Vessel Gauges

All gauges on the storage vessel and piping system are suitable for anhydrous ammonia service.

Compliance will be indicated through a signed and dated requirements list/ letter from the current Owner / Operator or person responsible indicating that the designs and materials of all gauges are appropriate for the service.

<table>
<tr><th>B.2.14 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All gauges on the storage vessel and piping system are suitable for anhydrous ammonia service.</td><td></td></tr>
<tr><td>Signed and dated requirements list/letter indicating that the designs and materials of all gauges are appropriate for the service.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

B2.14 Gauges ~~on Storage Vessel~~

All gauges on the storage vessel and piping system are suitable for anhydrous ammonia service.

Compliance will be indicated through a signed and dated letter from the current ~~owner~~ or person responsible indicating that the designs and materials of all gauges are appropriate for the service.

</td>
</tr>
</table>

<table>
<tr>
<td>B.2.15</td>
<td>

B.2.15 Storage Vessel Level Gauge

The storage vessel must be equipped with a level gauge to prevent over filling of the vessel.

Compliance will be indicated through a visual inspection of the storage vessel to determine the presence of an approved level gauge.

<table>
<tr><th>B.2.15 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The storage vessel is equipped with an approved level gauge.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

B2.15

The storage vessel must be equipped with a level gauge to prevent over filling of the vessel.

Compliance will be indicated through a visual inspection of the storage vessel to determine the presence of an approved level gauge.

</td>
</tr>
<tr>
<td>B.2.16</td>
<td>

B.2.16 Storage Vessel Pressure Gauge

The vessel is equipped with an approved 0-400 psi (0-2,800 kPa) pressure gauge to monitor the pressure of product in the vessel.

Compliance will be indicated through a visual inspection of the storage vessel to determine the presence of an approved pressure gauge.

<table>
<tr><td>The vessel is equipped with an approved 0-400 psi (0-2,800 kPa) pressure gauge</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

B2.16

The vessel is equipped with a 0-400 psi (~~28.129~~ kPa) pressure gauge to monitor the pressure of product in the vessel.

Compliance will be indicated through a visual inspection of the storage vessel to determine the presence of an approved pressure gauge.

</td>
</tr>
<tr>
<td>B.3</td>
<td>

B.3 STORAGE VESSEL HOSES

All hoses at the anhydrous ammonia storage and handling operation have been installed and tested in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations/ Standards.

</td>
<td>

B3 STORAGE VESSEL HOSES

All hoses at the anhydrous ammonia storage and handling operation have been installed and tested in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.

~~**B3 Minimum Requirements:**~~

</td>
</tr>
<tr>
<td>B.3.1</td>
<td>

B.3.1 Hoses:

All hoses used on an anhydrous ammonia storage vessel are clearly marked as approved for anhydrous ammonia service.

Compliance will be indicated through visual inspection of all hoses on the vessel to ensure they have proper markings indicating approval for anhydrous ammonia service.

</td>
<td>

B3.1

All hoses used on an anhydrous ammonia storage vessel are clearly marked as approved for anhydrous ammonia service.

</td>
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</table>

<table>
<tr><td></td><td>
<table>
<tr><th>B.3.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses used on the anhydrous ammonia storage vessel are clearly marked as approved for anhydrous ammonia service.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td>Compliance will be indicated through visual inspection of all hoses on the vessel to ensure they have proper markings indicating approval for anhydrous ammonia service.</td></tr>
<tr><td>B.3.2</td><td>
B.3.2 MAWP Storage Vessel Hose Marking

All hoses are marked with their Maximum Allowable Working Pressure (MAWP).

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure they have proper markings indicating Maximum Allowable Working Pressure.
<table>
<tr><th>B.3.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses have proper markings indicating Maximum Allowable Working Pressure (MAWP)</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td>
B3.2

All hoses are marked with their Maximum Allowable Working Pressure (MAWP).

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure they have proper markings indicating Maximum Allowable Working Pressure.
</td></tr>
<tr><td>B.3.3</td><td>
B.3.3 Storage Vessel Hose Expiry

All hoses have not exceeded their manufacturer’s “remove from service” date.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure manufacturer’s labelled “remove from service” date has not been exceeded.
<table>
<tr><th>B.3.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses do not exceed the manufacturer’s “remove from service” date.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td>
B3.3

All hoses have not exceeded their manufacturer’s “remove from service” date.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure manufacturer’s labelled “remove from service” date has not been exceeded.
</td></tr>
<tr><td>B.3.4</td><td>
B.3.4 Storage Vessel Hose Couplings

All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.
</td><td>
B3.4

All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.
</td></tr>
</table>

<table>
<tr>
<td></td>
<td>Compliance will be indicated through visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type.
<table>
<tr><th>B.3.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses are equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>Compliance will be indicated through visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type.</td>
</tr>
<tr>
<td>B.3.5</td>
<td>B.3.5 Storage Vessel Hose Testing

All hoses have been annually inspected, tested and marked in accordance with the CGA 2.1 current version standards.

Compliance will be indicated in two parts. First, all hoses on the vessel will be visually inspected to determine if they have been marked in accordance with standards. Second, the hose testing records will be reviewed to ensure hose testing has been conducted and documented at the appropriate frequency. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.
<table>
<tr><th>B.3.5 Audit Requirements</th><th>Y / N</th></tr>
<tr><td>All hoses have been annually inspected, tested and marked in accordance with the CGA 2.1 standards.</td><td></td></tr>
<tr><td>Signed and dated hose testing records/ letter indicate hose testing has been conducted at the appropriate frequency.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>B3.5

All hoses have been annually inspected, tested and marked in accordance with the ~~CSA~~ standards.

Compliance will be indicated in two parts. First, all hoses on the vessel will be visually inspected to determine if they have been marked in accordance with ~~CSA~~ standards. Second, the hose testing records will be reviewed to ensure hose testing has been conducted and documented at the appropriate frequency. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.</td>
</tr>
<tr>
<td>~~B.3.6~~</td>
<td></td>
<td>~~B3.6~~

~~When the site is unattended, the hose-end valves are secured against unauthorized access.~~

~~Compliance will be indicated through a demonstration by site personnel of the proper methods for securing the hose-end valves while the site is unattended.~~</td>
</tr>
</table>

<table>
<tr><td>B.4</td><td>B.4 STORAGE VESSEL TRANSFER PUMPS AND COMPRESSORS

The transfer pump or compressor on the anhydrous ammonia storage vessel has been designed and approved for use with anhydrous ammonia.</td><td>B4 STORAGE VESSEL TRANSFER PUMPS ~~OR~~ COMPRESSORS

The transfer pump or compressor on the anhydrous ammonia storage vessel has been designed and approved for use with anhydrous ammonia.

<s>B4 Minimum Requirements:</s></td></tr>
<tr><td>B.4.1</td><td>B.4.1 Storage Vessel Transfer Pump / Compressor

The transfer pump(s) and compressor(s) on the anhydrous ammonia storage vessel must be approved by the manufacturer for anhydrous ammonia service.

Compliance will be based on documentation of the transfer pump or compressor type.

<table><tr><th>B.4.1 Audit Requirements</th><th>Y/N</th></tr><tr><td>Documentation shows that the transfer pump(s) and compressor(s) are approved by the manufacturer for anhydrous ammonia service.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>B4.1

The transfer pump ~~or~~ compressor must be approved by the manufacturer for anhydrous ammonia service.

Compliance will be ~~indicated through~~ ~~a visual inspection~~.</td></tr>
<tr><td>B.4.2</td><td>B.4.2 Storage Vessel Transfer Pump and Compressor Guards

The transfer pump(s) and compressor(s) on the anhydrous ammonia storage vessel have been equipped with guards to protect people from contact with drive pulleys and belts.

Compliance will be indicated through a visual inspection of all transfer pumps or compressors to ensure they are equipped with guards to prevent contact with drive pulleys and belts.

<table><tr><th>B.4.2 Audit Requirements</th><th>Y/N</th></tr><tr><td>The transfer pump(s) and compressor(s) on the anhydrous ammonia storage vessel are equipped with guards to protect people from contact with drive pulleys and belts.</td><td></td></tr></table></td><td>B4.2

The transfer pump ~~or~~ compressor on the anhydrous ammonia storage vessel ~~has~~ been equipped with guards to protect people from contact with drive pulleys and belts.

Compliance will be indicated through a visual inspection of all transfer pumps or compressors to ensure they are equipped with guards to prevent contact with drive pulleys and belts.</td></tr>
</table>

	Comments	
B.4.3	**B.4.3 Storage Vessel Transfer Pump and Compressor Mounting** The transfer pump(s) and compressor(s) must be secured to a mount constructed of non-combustible material. *Compliance will be indicated through a visual inspection of the transfer pump mount or compressor mount to ensure it is constructed of non-combustible materials.* **B.4.3 Audit Requirements** — **Y/N** The transfer pump(s) or compressor(s) are securely mounted on a non-combustible base. — [ ] Comments	**B4.3** The transfer pump ~~or~~ compressor must be secured to a mount constructed of non-combustible material. *Compliance will be indicated through a visual inspection of the transfer pump mount or compressor mount to ensure it is ~~comprised~~ of non-combustible ~~construction~~.*
B.5	**B5 STORAGE VESSEL LABELS AND MARKINGS** The anhydrous ammonia storage vessel has the required labels and markings.	**B5 VESSEL LABELS AND MARKINGS** The anhydrous ammonia storage vessel has the required labels and markings. ~~**B5 Minimum Requirements:**~~
B.5.1	**B.5.1 Storage Vessel Labels** The anhydrous ammonia storage vessel has been clearly labelled with "ANHYDROUS AMMONIA INHALATION HAZARD" in a colour contrasting from the white background of the pressure vessel. Letters must be a minimum of two (2) inches (50 mm) inches in height. Labelling must appear on the two long sides of the vessel. Recommended Best Practices: Best Practice is 4 inch lettering. **B.5.1 Audit Requirements** — **Y/N** The anhydrous ammonia storage vessel is clearly labelled with "ANHYDROUS AMMONIA INHALATION HAZARD" in a colour contrasting from the white background of the pressure vessel. — [ ]	**B5.1** The anhydrous ammonia storage vessel has been clearly ~~marked~~ with ~~the required labelling for ammonia~~ in a colour ~~distinct~~ from the white background of the pressure vessel. Letters must be a minimum of ~~4 inches in height. Signage~~ must appear on the two long sides of the vessel. ~~**B5.2**~~ ~~The anhydrous ammonia storage vessel shall be clearly marked with the words~~ "INHALATION HAZARD" ~~on the two long sides of the vessel in a colour distinct from the white background of the pressure vessel. Letters must be minimum of 4 inches in height.~~

<table>
<tr><td></td><td>
<table>
<tr><td>Letters are a minimum of two inches (2”) in height.</td><td></td></tr>
<tr><td>Labelling appears on the two long sides of the vessel.</td><td></td></tr>
<tr><td>Meets Best Practices Requirements - Letters are a minimum of four inches (4”) in height.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td></td></tr>
<tr><td>B.5.2</td><td>

B.5.2 Storage Vessel Placards:

Current Transportation of Dangerous Goods placards must be mounted on the two long sides of the vessel.

Compliance will be indicated through a visual inspection of signage on storage vessels to ensure signage meets requirements.

Recommended Best Practices: Placards are mounted on the two long sides of the vessel and near the vessel head.

<table>
<tr><td>B.5.2 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>Current Transport of Dangerous Goods (TDG) placards are mounted on the two long sides of the vessel.</td><td></td></tr>
<tr><td>Meets Best Practices Requirements - Placards are mounted on the two long sides of the vessel and near the vessel head.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td><td>

~~**B5.3**~~

Current Transportation of Dangerous Goods placards must be mounted on the two long sides of the vessel.

</td></tr>
<tr><td>B.5.3</td><td>

B.5.3 Storage Vessel WHMIS Labels

Current WHMIS labels must be affixed or located everywhere where transfer operations take place.

<table>
<tr><td>B.5.3 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>Current WHMIS labels are affixed where transfer operations take place</td><td></td></tr>
</table>

</td><td>

~~**B5.4**~~

WHMIS ~~supplier~~ label must be affixed ~~at all~~ transfer ~~points~~.

</td></tr>
</table>

<table>
<tr><td></td><td>Comments</td><td></td></tr>
<tr><td>B.5.4</td><td>B.5.4 Storage Vessel Safe Handling

Safe handling procedures must be located at all transfer points.

Compliance will be indicated through a visual inspection of the label on or near the vessel to ensure the label meets requirements as per User Guide.

<table><tr><th>B.5.4 Audit Requirements</th><th>Y/N</th></tr><tr><td>Safe handling procedures are located at transfer points.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td><s>B5.5</s>

Safe handling procedures must be located at all transfer points.</td></tr>
<tr><td>B.5.5</td><td>B.5.5 Storage Vessel Emergency First Aid Signage

Emergency first aid procedures must be located at all product transfer points on the vessel.

Compliance will be indicated through a visual inspection of the signage or labelling on or near the vessel to ensure the signage meets requirements as per User Guide.

<table><tr><th>B.5.5 Audit Requirements</th><th>Y/N</th></tr><tr><td>Emergency first aid procedures are located at all product transfer points on the vessel.</td><td></td></tr><tr><td>Emergency first aid signage or labelling meets requirements as per User Guide.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td><s>B5.6</s>

Emergency first aid procedures must be located at all product transfer points on the vessel.

Compliance will be indicated through a visual inspection of the signage on the vessel to ensure the signage meets requirements.</td></tr>
<tr><td>B6</td><td>B.6 STORAGE VESSEL BLEED-OFF CONTAINMENT

A system for containing anhydrous ammonia (vapour and liquid) produced during uncoupling and bleed-off operations has been installed on the anhydrous ammonia storage vessel.</td><td>B6 BLEED-OFF CONTAINMENT

A system for containing anhydrous ammonia (vapour and liquid) produced during uncoupling and bleed-off operations has been installed on the anhydrous ammonia storage vessel.</td></tr>
</table>

<table>
<tr><td></td><td></td><td><s>B6 Minimum Requirements:</s></td></tr>
<tr><td>B.6.1</td><td>B.6.1 Storage Vessel Bleed-off Containment:
A containment tank for bleed-off vapour/liquid is required.

Compliance will be indicated through a visual inspection of the required containment tank and bleed off lines. Bleed off lines must be directed into containment tank.

<table><tr><th>B.6.1 Audit Requirements</th><th>Y/N</th></tr><tr><td>System has a bleed-off containment tank and bleed off lines must be directed into containment tank.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>B6.1
A containment tank for bleed-off vapour/liquid is required.

Compliance will be indicated through a visual inspection of the required <s>equipment.</s></td></tr>
<tr><td>B.6.2</td><td>B.6.2 Storage Vessel Bleed-off Containment Tank Label
The containment tank for the bleed-off vapour/ liquid containment system has been labelled as bleed-off water or tank in a contrasting colour and with lettering a minimum of two (2) inches in height.

Compliance will be indicated through a visual inspection of the containment tank to ensure the proper labelling.

<table><tr><th>B.6.2 Audit Requirements</th><th>Y/N</th></tr><tr><td>The containment tank for the bleed-off vapour / liquid containment system is labelled as bleed-off water or tank in a contrasting colour.</td><td></td></tr><tr><td>Bleed-off tank label lettering is a minimum of two inches (2”) in height.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>B6.2
The containment tank for the bleed-off vapour/liquid containment system has been labelled as bleed-off water or tank in a contrasting colour and with lettering a minimum of <s>2</s> inches in height.

Compliance will be indicated through a visual inspection of the <s>vessel</s> to ensure the proper <s>design and construction of the bleed-off vapour/liquid containment system.</s></td></tr>
<tr><td>B.6.3</td><td>B.6.3 Storage Vessel Bleed-off Disposal
A program is in place for the proper disposal of contaminated bleed-off water.</td><td>B6.3
A program is in place for the proper disposal of contaminated bleed-off water.</td></tr>
</table>

<table>
<tr>
<td></td>
<td>Compliance will be indicated through the presence of a written procedure in the safe operating procedure manual.
<table>
<tr><th>B.6.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>There is a written procedure for the proper disposal of contaminated bleed-off water in the Safe Operating Procedure Manual.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>Compliance will be indicated through the presence of a written procedure in the safe operating procedure manual.</td>
</tr>
<tr>
<td>B.6.4</td>
<td>B.6.4 Storage Vessel Bleed-off Containment Tank Venting

The bleed-off containment tank is vented to atmosphere to prevent pressure accumulation. Openings in the tank are no larger than 12 inches in diameter.

Compliance will be indicated through a visual inspection of the containment tank.
<table>
<tr><th>B.6.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Tank openings are no larger than 12 inches in diameter.</td><td></td></tr>
<tr><td>Tank is vented.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td>
<td>B6.4

<s>The tank is equipped with a lid to prevent access.</s>

Compliance will be indicated through a visual inspection of the containment tank.</td>
</tr>
<tr>
<td>B.7</td>
<td>B.7 PERSONAL PROTECTIVE EQUIPMENT

The anhydrous ammonia storage and handling operation is equipped with the required personal protective equipment.

When handling, transferring and or repairing equipment that has potential for release that could cause injury from anhydrous ammonia, all required Personal Protective Equipment (PPE) must be worn. Examples where PPE is required to be worn include:
• While connecting and disconnecting hoses for transfer (Note: when transfer operations are being completed (i.e. pumping is taking place) the operator can remove the PPE when in a safe area).</td>
<td>B7 PERSONAL PROTECTIVE EQUIPMENT

The anhydrous ammonia storage and handling operation is equipped with the required personal protective equipment.

<s>B7 Minimum Requirements:</s></td>
</tr>
</table>

- While bleeding equipment for transfer and after transfer operations are completed.
- While personnel are performing maintenance, until all anhydrous ammonia has been evacuated from the equipment that is being maintained.

Each employee working with ammonia at an anhydrous ammonia operation must have the following:

B7.1 Full-face cartridge style respirator complete with extra cartridges.

B7.2 One- or two-piece anhydrous ammonia resistant suit (neoprene).

B7.3 Gauntlet style anhydrous ammonia resistant gloves (neoprene).

B7.4 CSA approved safety boot with a minimum six inch upper.

B7.5 Individual emergency water bottle filled with clean, fresh water.

Compliance will be indicated through a visual inspection of the safety equipment and interviews with operators to ensure that the proper type and quantity is available on site and used. See User Guide.

B.7 Audit Requirements	**Y/N**
All required personal protective equipment (PPE) is worn when handling, transferring, and or repairing equipment that has potential for release that could cause injury from anhydrous ammonia. Confirmed through observation or interviews with operators.	
Each employee working with ammonia at an anhydrous ammonia operation has all the required PPE. Proper type and quantity of PPE is on site.	
Comments	

Each employee working with ammonia at an anhydrous ammonia operation must have the following:

B7.1 Full-face cartridge style respirator complete with extra cartridges.

B7.2 One- or two-piece anhydrous ammonia resistant suit.

B7.3 Gauntlet style anhydrous ammonia resistant gloves.

B7.4 CSA approved safety boot with a minimum six inch upper.

B7.5 Individual emergency water bottle filled with clean, fresh water.

Compliance will be indicated through a visual inspection of the safety equipment to ensure that the proper type and quantity is on site.

B.8	**B.8 EMERGENCY EQUIPMENT** The anhydrous ammonia storage and handling operation is equipped with the required emergency equipment that is accessible and identifiable by all personnel. In addition to all personal protective equipment, specified in Section B7, the following designated emergency equipment is required: B8.1 Two anhydrous ammonia full-face respirators complete with spare canisters/cartridges. B8.2 If required by provincial regulations, two self-contained breathing apparatuses (SCBA). B8.3 Two one- or two-piece anhydrous ammonia resistant suits. B8.4 First Aid kit of a size appropriate for the number of employees at the site. B8.5 At minimum, a 10-pound charged ABC fire extinguisher (one located near each anhydrous ammonia transfer point). B8.6 Two water supplies are required for emergency requirements. Water supplies may be either safety showers or 200-gallon water troughs filled with clean, fresh water and labelled with a white cross on a green background to designate emergency response water. Troughs must be located within 10 metres of anhydrous ammonia transfer points. Water troughs must be located opposite to each other on either side of the storage vessel, considering the prevailing wind direction. Water must be heated to prevent freezing when transfer operations are occurring. B8.7 Emergency eyewash capability. B8.8 Two wind indicators must be located at the anhydrous ammonia storage operation in order to determine the wind direction for emergency response purposes.	**B8 EMERGENCY EQUIPMENT** The anhydrous ammonia storage and handling operation is equipped with the required emergency equipment. ~~**B8 Minimum Requirements:**~~ In addition to all personal protective equipment, the following designated emergency equipment is required: B8.1 Two anhydrous ammonia full-face respirators complete with spare canisters/cartridges. B8.2 If required by provincial regulations, two self-contained breathing apparatuses (SCBA). B8.3 Two one- or two-piece anhydrous ammonia resistant suits. B8.4 First Aid kit of a size appropriate for the number of employees at the site. B8.5 At minimum, a 10 lb charged ABC fire extinguisher (one located near each anhydrous ammonia transfer point). B8.6 Two water supplies are required for emergency requirements. Water supplies may be either safety showers or 200 gallon water troughs filled with clean, fresh water and labelled with a red cross to designate emergency response water. Troughs must be located within 10 metres of anhydrous ammonia transfer points. Water troughs must be located opposite to each other on either side of the storage vessel, considering the prevailing wind direction. Water must be heated to prevent freezing when ~~used in the colder months~~. B8.7 Emergency eyewash capability. B8.8 Two wind indicators must be located at the anhydrous ammonia storage operation in order to determine the wind direction for emergency response purposes.

<table>
<tr>
<td></td>
<td>Compliance will be indicated through a visual inspection of all required emergency response equipment.
<table>
<tr><th>B.8 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>In addition to the PPE as specified in Section B7, the anhydrous ammonia storage and handling operation is equipped with:</td><td></td></tr>
<tr><td>• Two canisters type respirators, or SCBA if required by provincial regulations.</td><td></td></tr>
<tr><td>• Ammonia resistant suits.</td><td></td></tr>
<tr><td>• First Aid kit.</td><td></td></tr>
<tr><td>• Fire extinguisher.</td><td></td></tr>
<tr><td>• Two water supplies.</td><td></td></tr>
<tr><td>• Emergency eyewash capability.</td><td></td></tr>
<tr><td>• Two wind indicators.</td><td></td></tr>
<tr><td>The required emergency equipment is accessible and identifiable by all personnel.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table></td>
<td>Compliance will be indicated through a visual inspection of all required emergency response equipment.</td>
</tr>
<tr>
<td>B.9</td>
<td>B.9 ELECTRICAL CODE COMPLIANCE
The anhydrous ammonia storage and handling operation’s electrical system complies with the requirements of applicable regulations.</td>
<td>B9 ELECTRICAL CODE COMPLIANCE
The anhydrous ammonia storage and handling operation’s electrical system complies with the requirements of applicable regulations.
<s>B9 Minimum Requirements:</s></td>
</tr>
<tr>
<td>B.9.1</td>
<td>B.9.1 Storage Vessel Grounding
The anhydrous ammonia vessel has been grounded to mitigate damage from lightning strikes</td>
<td>B9.1
The anhydrous ammonia vessel has been <s>adequately</s> grounded to mitigate damage from lightning strikes.</td>
</tr>
</table>

<table>
<tr>
<td></td>
<td>

Compliance will be indicated through a visual inspection of grounding system of the vessel.

B.9.1 Audit Requirements	**Y/N**
The anhydrous ammonia vessel is grounded	
Comments	

</td>
<td>

Compliance will be indicated through a visual inspection of grounding system of the vessel.

</td>
</tr>
<tr>
<td>B.9.2</td>
<td>

B.9.2 Electric Motors

Electric motors must comply with applicable regulatory requirements.

Compliance will be indicated through a signed and dated letter from the current Owner / Operator or person responsible indicating compliance of motors with applicable regulations.

B.9.2 Audit Requirements	**Y/N**
A signed and dated letter from the current Owner / Operator / person responsible of motors indicates compliance with applicable regulations	
Comments	

</td>
<td>

B9.2

Electric motors must comply with applicable regulatory requirements.

Compliance will be indicated through a signed and dated letter from the current ~~owner~~ or person responsible indicating compliance of motors with ~~local~~ regulations.

</td>
</tr>
<tr>
<td>B.9.3</td>
<td>

B.9.3 Electrical Enclosures

Weather-tight electrical enclosures are required for all exterior mounted electrical switches and controls.

Compliance will be indicated through a visual inspection of all enclosures for exterior switches and controls to ensure they are weather-tight.

B.9.3 Audit Requirements	**Y/N**
A visual inspection of all enclosures for exterior switches and controls to ensure they are weather-tight indicates compliance.	
Comments	

</td>
<td>

B9.3

Weather-tight electrical enclosures are required for all exterior mounted electrical switches and controls.

Compliance will be indicated through a visual inspection of all enclosures for exterior switches and controls to ensure they are weather-tight.

</td>
</tr>
</table>

<table>
<tr>
<td>B.9.4</td>
<td>

B.9.4 Emergency Heaters GFI

Heaters for emergency water tanks must be protected by Ground Fault Interrupters (GFI).

Compliance will be indicated through a visual inspection.

<table>
<tr><th>B.9.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Heaters for emergency water tanks must be protected by Ground Fault Interrupters (GFI)</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td>
<td>

B9.4

Heaters for emergency water tanks must be protected by Ground Fault Interrupters (GFI).

Compliance will be indicated through a visual inspection.

</td>
</tr>
<tr>
<td></td>
<td>

SUMMARY FOR SECTION B TO BE COMPLETED BY THE AUDITOR

<table>
<tr><th>SECTION B</th><th>Yes/No</th></tr>
<tr><td>All Mandatory Items Are Present</td><td></td></tr>
<tr><td>Meets Best Practices</td><td>/5</td></tr>
</table>

</td>
<td>

SUMMARY ~~SCORE~~ FOR SECTION B TO BE COMPLETED BY THE AUDITOR

<table>
<tr><th>SECTION B</th><th>~~Items/Points~~</th><th>~~Pass Mark Items/Points~~</th><th>~~Actual Score~~</th></tr>
<tr><td>Mandatory Items</td><td>~~43~~</td><td>~~43~~</td><td>~~(must be 100% compliant on Mandatory Items)~~</td></tr>
<tr><td>~~Points Items~~</td><td>~~220 points~~</td><td>~~176 points~~</td><td>~~(must be 80% compliant on Point Items)~~</td></tr>
</table>

</td>
</tr>
<tr>
<td>**Section C**</td>
<td>

SECTION C – TRANSPORT AND APPLICATION EQUIPMENT

This section contains the standards for managing risks associated with anhydrous ammonia mobile transport and application equipment.

</td>
<td>

SECTION C – TRANSPORT AND APPLICATION EQUIPMENT

This section contains the standards for managing risks associated with anhydrous ammonia mobile transport and application equipment. ~~For the purposes of this section, the following equipment must comply with the standards defined in this section.~~

</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td><strike>Highway Transport Vessel or Delivery Vessel – is defined as a highway tank or delivery vessel designed to be used to transport anhydrous ammonia from the manufacturer to the retailer or from the retailer to the farm, excluding nurse wagons and applicator equipment.</strike></td></tr>
<tr><td>Section C – Part 1</td><td>SECTION C – PART 1: TRANSPORT EQUIPMENT

Highway Transport Vessel or Delivery Vessel – is defined as a highway tank or delivery vessel designed to be used to transport anhydrous ammonia from the manufacturer to the retailer or from the retailer to the farm, excluding nurse wagons and applicator equipment.

C1 TRANSPORT VESSEL DESIGN AND CONSTRUCTION

All anhydrous ammonia transport vessels have been designed, constructed, operated, and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations/Standards.</td><td>SECTION C – PART 1: TRANSPORT EQUIPMENT

C1 TRANSPORT VESSEL DESIGN AND CONSTRUCTION

All anhydrous ammonia transport vessels have been designed, constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.

<strike>C1 Minimum Requirements</strike></td></tr>
<tr><td>C.1.1</td><td>C.1.1 Transport Vessel Design, Construction, Operation and Maintenance

The transport vessels have been designed, constructed, operated and maintained in accordance with the applicable Codes (CSA B620 / B622).

Compliance will be indicated by a visual inspection of the data plate for ASME certification or Transport Canada registration number or proven through documentation.

<table><tr><th>C.1.1 Audit Requirements</th><th>Y/N</th></tr><tr><td>Transport vessels are designed, constructed, operated and maintained in accordance with the applicable Code based on ASME and/or Transport Canada certification on the data plate or documentation.</td><td></td></tr><tr><td>Comments</td><td></td></tr></table></td><td>C.1.1

The transport vessels have been designed, constructed, operated and maintained in accordance with the applicable Codes<strike>. Consult the Provincial Boiler and Pressure Vessel Regulations for applicable Code requirements</strike>.

Compliance will be indicated by a visual inspection of the data plate for ASME certification or through documentation.</td></tr>
<tr><td>C.1.2</td><td>C.1.2 Transport Vessel Canadian Registration Number (CRN)</td><td>C1.2</td></tr>
</table>

<table>
<tr>
<td></td>
<td>The Canadian Registration Number (CRN), Transport Canada Registration Number (TCRN) or recognized equivalent specification is legible and is on the nameplate affixed to the vessel.

Compliance will be indicated through a visual inspection of the nameplate.

<table>
<tr><th>C.1.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>CRN or recognized equivalent specification is legible and present on the nameplate affixed to the vessel.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td>
<td>The Canadian Registration Number (CRN), Transport Canada Registration Number (TCRN) or recognized equivalent specification is legible and is on the nameplate affixed to the vessel.

Compliance will be indicated through a visual inspection of the nameplate.</td>
</tr>
<tr>
<td>C.1.3</td>
<td>C.1.3 Transport Vessel Maintenance and Testing

Regular scheduled maintenance and testing is required and can be verified through documentation and visual inspection.

Compliance will be indicated through a visual inspection of the markings on the vessel and testing documentation. Inspection frequency is determined as per current B620 standard Table 7.1. Tank pressure and leak testing is determined as per B620 requirements.

<table>
<tr><th>C.1.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Regular scheduled maintenance and testing can be verified through visual inspection of the markings on the vessel and testing documentation</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td>
<td>C1.3

Regular scheduled maintenance and testing is required and can be verified through documentation and visual inspection.

Compliance will be indicated through a visual inspection of the markings on the vessel ~~or~~ testing documentation.</td>
</tr>
<tr>
<td>C.2</td>
<td>C.2 TRANSPORT VESSEL VALVES, PIPING AND GAUGES

All valves, piping and gauges on the anhydrous ammonia transport vessels have been designed and constructed in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations/Standards.</td>
<td>C2 TRANSPORT VESSEL VALVES, PIPING AND GAUGES

All valves, piping and gauges on the anhydrous ammonia transport vessels have been designed and constructed in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.

~~C2~~ Valves on Transport Vessel ~~– Minimum Requirements~~</td>
</tr>
</table>

<table>
<tr>
<td>C.2.1</td>
<td>

C.2.1 Valves on Transport Vessel Liquid and Vapour Lines

All liquid and vapour lines must be equipped with an emergency shutoff valve to stop the flow of product in an emergency. Emergency shutoff valves must be operable automatically or remotely.

The activating lever or device on the emergency shut-off must be colour-coded blue or affixed on a blue background.

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.

<table>
<tr><th>C2.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All liquid and vapour lines are equipped with an emergency shutoff valve to stop the flow of product in an emergency</td><td></td></tr>
<tr><td>Emergency shutoff valves are operable automatically or remotely</td><td></td></tr>
<tr><td>The activating lever or device on the emergency shut-off is colour-coded blue, or affixed on blue background</td><td></td></tr>
<tr><td>Vessel has markings for CSA B620 and documentation showing compliance.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td>
<td>

C2.1

All liquid and vapour lines must be equipped with an emergency shutoff valve to stop the flow of product in an emergency. Emergency shutoff valves must be operable automatically or remotely.

The activating lever or device on the emergency shut-off must be colour-coded blue.

Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance ~~or~~ through documentation.

</td>
</tr>
<tr>
<td>C.2.2</td>
<td>

C.2.2 Transport Vessel Excess Flow Valves

All transport vessels shall be equipped with excess flow valves on outlet lines that have been correctly sized in accordance with the restriction of the piping system to ensure effective operation of the excess flow valve.

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.

<table>
<tr><th>C2.2 Audit Requirements</th><th>Y/N</th></tr>
</table>

</td>
<td>

C2.2

All transport vessels shall be equipped with excess flow valves on outlet lines that have been correctly sized in accordance with the restriction of the piping system to ensure effective operation of the excess flow valve.

Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance ~~or~~ through documentation.

</td>
</tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><td>All transport vessels are equipped with excess flow valves on outlet lines</td><td></td></tr>
<tr><td>The excess flow valves on outlet lines have been correctly sized in accordance with the restriction of the piping system to ensure effective operation of the excess flow valve</td><td></td></tr>
<tr><td>Vessel has markings for CSA B620 and documentation showing compliance.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>C.2.3</td><td>
C.2.3 Transport Vessel Valves

All valves are suitable for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.

<table>
<tr><td>C.2.3 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>All valves are suitable for anhydrous ammonia service as indicated by vessel markings for CSA B620 compliance and through documentation.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td><td>
C2.3

All valves are suitable for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance ~~or~~ through documentation.
</td></tr>
<tr><td>C.2.4</td><td>
C.2.4 Transport Vessel Hose-end Valves

Hose-end valves have been constructed to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard to prevent accidental opening.

Compliance will be indicated through a visual inspection of hose-end valves.

<table>
<tr><td>C.2.4 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>Hose-end valves are constructed to prevent accidental opening</td><td></td></tr>
</table>
</td><td>
C2.4

Hose-end valves have been constructed to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard to prevent accidental opening.

Compliance will be indicated through a visual inspection of hose-end valves.
</td></tr>
</table>

	Comments	
C.2.5	**C.2.5 Transport Vessel Safety Relief Valves** Safety relief valves shall conform to applicable regulations. The service life on safety relief valves must not be exceeded. *Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.* **C.2.5 Audit Requirements** — **Y/N** Safety relief valves meet the applicable regulation. The service life on safety relief valves has not been exceeded. Vessel has markings for CSA B620 compliance and documentation showing compliance. Comments	**C2.5** Safety relief valves shall conform to applicable regulation. The expiry date on safety relief valves must not be exceeded. *Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance ~~or~~ through documentation.*
C.2.6	**C.2.6 Transport Vessel Hydrostatic Relief Valves** Hydrostatic relief valves are installed in accordance with applicable regulatory requirements. The service life for the hydrostatic relief valves has not been exceeded. *Compliance will be indicated through a visual inspection of positioning of hydrostatic relief valves in the piping system and a visual inspection of documentary evidence to determine if their service life has been exceeded.* Recommended Best Practices: Best practice is to direct the hydrostatic relief valves away from the operator or tube to a safe discharge location. **C.2.6 Audit Requirements** — **Y/N** Hydrostatic relief valves have been installed in accordance with the regulatory requirements.	**C2.6** Hydrostatic relief valves are installed in accordance with regulatory requirements. The ~~expiry date~~ for the hydrostatic relief valves has not been exceeded. Best practice is to direct the valve ~~downward~~ or ~~have it~~ tube~~d~~ ~~away~~. *Compliance will be indicated through a visual inspection of positioning of hydrostatic relief valves in the piping system and a visual inspection of documentary evidence to determine if their ~~expiry date~~ has been exceeded.*

<table>
<tr>
<td></td>
<td>
<table>
<tr><td>Documentation shows that the service life for the hydrostatic relief valves has not been exceeded</td><td></td></tr>
<tr><td>A visual inspection of positioning of hydrostatic relief valves in the piping system indicates compliance</td><td></td></tr>
<tr><td>Meets Best Practices Requirements – Hydrostatic relief valve is directed away from the operator or tubed to a safe discharge location</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td>
<td></td>
</tr>
<tr>
<td>~~C.2.7~~</td>
<td>(Note: Previous protocol addressing securing of transport vessel discharge valves has been removed due to the use of secure fencing at all sites.)</td>
<td>~~C2.7~~

~~The transport vessel must have a means of securing discharge valves when left unattended.~~

~~Compliance will be indicated through a visual inspection of devices used for securing of valves.~~</td>
</tr>
<tr>
<td>C.2.7</td>
<td>C.2.7 Transport Vessel Piping

Piping systems on the transport vessel have been designed and constructed with Schedule 40 and/or Schedule 80 steel or stainless-steel pipe. All Schedule 40 pipe has been inspected to ensure no threaded connections were made. All threaded connections must be constructed with a minimum of Schedule 80 pipe.

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.

Recommended Best Practices: Best practice is to standardize all piping systems to a minimum of Schedule 80.
<table>
<tr><th>C.2.7 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Documentary evidence that</td><td></td></tr>
</table>
</td>
<td>C2.~~8~~ Piping ~~on Transport Vessel – Minimum Requirements~~

Piping systems on the transport vessel have been designed and constructed with Schedule 40 and/or Schedule 80 pipe. All Schedule 40 pipe has been inspected to ensure no threaded connections were made. All threaded connections must be constructed with a minimum of Schedule 80 pipe. Best practice is to standardize all piping systems to a minimum of Schedule 80.

Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance ~~or~~ through documentation.</td>
</tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><td>• piping on the transport vessel has been designed and constructed with Schedule 40 and/or Schedule 80 steel or stainless-steel pipe
• Schedule 40 pipe has been inspected to ensure no threaded connections were made
• All threaded connections are constructed with a minimum of Schedule 80 pipe.</td><td></td></tr>
<tr><td>A visual inspection and documentary evidence that the vessel markings meet requirements (CSA B620)</td><td></td></tr>
<tr><td>Meets Best Practices Requirements - All piping systems are a minimum of Schedule 80</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>C.2.8</td><td>
C.2.8 Transport Vessel Fittings

Forged steel, stainless steel or malleable iron fittings are allowed for anhydrous ammonia piping if they are rated for the correct design pressure. No brass, copper, or galvanized zinc materials shall be used.

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.
<table>
<tr><th>C.2.8 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Forged steel, stainless steel or malleable iron fittings are rated for the correct design pressure.</td><td></td></tr>
<tr><td>No brass, copper, or galvanized zinc materials are used</td><td></td></tr>
<tr><td>Vessel has markings for CSA B620 and documentation showing compliance.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td><td>
C2.~~9~~

Forged steel, stainless steel or malleable iron fittings are allowed for anhydrous ammonia piping if they are rated for the correct design pressure. No brass, copper, galvanized or zinc materials shall be used.

Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance ~~or~~ through documentation.
</td></tr>
<tr><td>C.2.9</td><td>C.2.9 Transport Vessel Colour Coding</td><td>C2.~~10~~</td></tr>
</table>

<table>
<tr>
<td></td>
<td>All piping must be colour-coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-off activation devices.

Compliance will be indicated through a visual inspection of lines and devices to ensure proper colour-coding.

<table>
<tr><th>C.2.9 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All piping is colour-coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-of activation devices</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td>
<td>All piping must be colour-coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-off devices.

Compliance will be indicated through a visual inspection of lines and devices to ensure proper colour-coding.</td>
</tr>
<tr>
<td>C.2.10</td>
<td>C.2.10 Transport Vessel Flex Connector

Hose used as flex connectors for differential movement between components shall be approved for anhydrous ammonia service and must be inspected annually and hydrostatically tested at the required intervals.

Compliance will be indicated by inspection of hose testing records.

<table>
<tr><th>C.2.10 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Hose used as flex connectors for differential movement between components have been approved for anhydrous ammonia service.</td><td></td></tr>
<tr><td>All hoses have been inspected annually and hydrostatically tested at the required intervals.</td><td></td></tr>
<tr><td>Inspection of hose testing records indicates compliance.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td>
<td>C2.~~11~~

~~All types of rubber~~ hose used as flex connectors for differential movement between components shall be approved for anhydrous ammonia service and must be inspected annually and hydrostatically tested at the required intervals.

Compliance will be indicated by inspection of hose testing records.</td>
</tr>
<tr>
<td>C.2.11</td>
<td>C.2.11 Gauges on Transport Vessel

All gauges on the transport vessel and piping system are suitable for anhydrous ammonia service.</td>
<td>C2.~~12~~ Gauges on Transport Vessel : ~~– Minimum Requirements~~

All gauges on the transport vessel and piping system are suitable for anhydrous ammonia service.</td>
</tr>
</table>

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<tr>
<td></td>
<td>

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.

C.2.11 Audit Requirements	**Y/N**
All gauges on the transport vessel and piping system are suitable for anhydrous ammonia service as indicated by vessel markings for CSA B620 and documentation showing compliance.	
Comments	

</td>
<td>

Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance ~~or~~ through documentation.

</td>
</tr>
<tr>
<td>C.2.12</td>
<td>

C.2.12 Transport Vessel Level Gauge

The transport vessel must be equipped with a level gauge to prevent over filling of the vessel.

Compliance will be indicated through a visual inspection of the transport vessel to determine the presence of an approved level gauge.

C.2.12 Audit Requirements	**Y/N**
The transport vessel is equipped with an approved level gauge to prevent over filling of the vessel	
Comments	

</td>
<td>

C2.~~13~~

The transport vessel must be equipped with a level gauge to prevent over filling of the vessel.

Compliance will be indicated through a visual inspection of the transport vessel to determine the presence of an approved level gauge.

</td>
</tr>
<tr>
<td>C.2.13</td>
<td>

C.2.13 Transport Vessel Pressure Gauge

The transport vessel is equipped with an approved 0-400 psi (0-2,800 kPa) pressure gauge to monitor the pressure of product in the vessel.

Compliance will be indicated through a visual inspection of the transport vessel to determine the presence of an approved pressure gauge.

C.2.13 Audit Requirements	**Y/N**
The transport vessel is equipped with an approved 0-400 psi (0-2,800 kPa) pressure gauge	
Comments	

</td>
<td>

C2.~~14~~

The transport vessel is equipped with ~~a~~ 0-400 psi (~~28.129~~ kPa) pressure gauge to monitor the pressure of product in the vessel.

Compliance will be indicated through a visual inspection of the transport vessel to determine the presence of an approved pressure gauge.

</td>
</tr>
</table>

<table>
<tr><td>C.3</td><td>C.3 TRANSPORT VESSEL HOSES

All hoses on the transport vessel have been installed and tested in accordance with CSA B620 Vessel Regulations.</td><td>C3 TRANSPORT VESSEL HOSES

All hoses on the transport vessel have been installed and tested in accordance with <s>Federal and/or Provincial Boiler and Pressure</s> Vessel Regulations.

<s>C3 Minimum Requirements</s></td></tr>
<tr><td>C.3.1</td><td>C.3.1 Transport Vessel Hoses

All hoses used on an anhydrous ammonia transport vessel are clearly marked as approved for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure proper markings indicating approval for anhydrous ammonia service.

<table><tr><th>C.3.1 Audit Requirements</th><th>Y/N</th></tr><tr><td>All hoses used on an anhydrous ammonia transport vessel are clearly marked as approved for anhydrous ammonia service</td><td></td></tr><tr><td>Comments</td><td></td></tr></table></td><td>C3.1

All hoses used on an anhydrous ammonia transport vessel are clearly marked as approved for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure proper markings indicating approval for anhydrous ammonia service.</td></tr>
<tr><td>C.3.2</td><td>C.3.2 MAWP Transport Vessel Hose Marking

All hoses are marked with Maximum Allowable Working Pressure (MAWP).

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure proper markings indicating Maximum Allowable Working Pressure.

<table><tr><th>C.3.2 Audit Requirements</th><th>Y/N</th></tr><tr><td>All hoses are marked with Maximum Allowable Working Pressure (MAWP)</td><td></td></tr><tr><td>Comments</td><td></td></tr></table></td><td>C3.2

All hoses are marked with Maximum Allowable Working Pressure (MAWP).

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure proper markings indicating Maximum Allowable Working Pressure.</td></tr>
<tr><td>C.3.3</td><td>C.3.3 Transport Vessel Hose Expiry

All hoses have not exceeded their manufacturer’s “remove from service” date.</td><td>C3.3

All hoses have not exceeded their manufacturer’s “remove from service” date.</td></tr>
</table>

<table>
<tr>
<td></td>
<td>

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure manufacturer's labeled "remove from service" date on the hoses has not been exceeded.

<table>
<tr><th>C.3.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses have not exceeded the manufacturer's labeled "remove from service" date</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td>
<td>

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure manufacturer's labeled "remove from service" date on the hoses has not been exceeded.

</td>
</tr>
<tr>
<td>C.3.4</td>
<td>

C.3.4 Transport Vessel Hose Couplings

All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type.

<table>
<tr><th>C.3.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses are equipped with crimp-on or bolt-on hose couplings which have been designed for anhydrous ammonia service</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td>
<td>

C3.4

All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type.

</td>
</tr>
<tr>
<td>C.3.5</td>
<td>

C.3.5 Transport Vessel Hose Testing

All hoses have been annually inspected, tested and marked in accordance with the CSA B620 current version standards.

Compliance will be indicated in two parts. First, all hoses on the vessel will be visually inspected to determine if they have been marked in accordance with CSA B620 standards. Second, the hose testing records will be reviewed to ensure hose testing has been documented and conducted at the appropriate frequency.

<table>
<tr><th>C.3.5 Audit Requirements</th><th>Y/N</th></tr>
</table>

</td>
<td>

C3.5

All hoses have been annually inspected, tested and marked in accordance with the CSA standards.

Compliance will be indicated in two parts. First, all hoses on the vessel will be visually inspected to determine if they have been marked in accordance with CSA standards. Second, the hose testing records will be reviewed to ensure hose testing has been documented and conducted at the appropriate frequency.

</td>
</tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><td>All hoses are marked in accordance with the CSA B620 standards</td><td></td></tr>
<tr><td>Documentation showing all hoses have been annually inspected and tested</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>C.4</td><td>C.4 TRANSPORT VESSEL TRANSFER PUMPS

The transfer pump on the anhydrous ammonia transport vessel has been designed and approved for use with anhydrous ammonia.</td><td>C4 TRANSPORT VESSEL TRANSFER PUMPS ~~OR COMPRESSORS~~

The transfer pump ~~or compressor~~ on the anhydrous ammonia transport vessel has been designed and approved for use with anhydrous ammonia.

~~C4 Minimum Requirements~~</td></tr>
<tr><td>C.4.1</td><td>C.4.1 Transport Vessel Transfer Pump for Anhydrous Ammonia

The transfer pump must be approved by the manufacturer for anhydrous ammonia service.

Compliance will be based on documentation of the transfer pump type.
<table>
<tr><td>C.4.1 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>Documentation shows that transfer pumps are approved by the manufacturer for anhydrous ammonia service.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td><td>C4.1

The transfer pump or compressor must be approved by the manufacturer for anhydrous ammonia service.

Compliance will be ~~indicated through~~ ~~a visual inspection~~ of the pump ~~or compressor to ensure it is approved for anhydrous ammonia service.~~</td></tr>
<tr><td>C.4.2</td><td>C.4.2 Transport Vessel Transfer Pump Guards

The transfer pump on the anhydrous ammonia transport vessel has been equipped with guards to prevent contact with drive pulleys and belts.

Compliance will be indicated through a visual inspection of all transfer pumps to ensure they are equipped with guards to prevent contact with drive pulleys and belts.</td><td>C4.2

The transfer pump ~~or compressor~~ on the anhydrous ammonia transport vessel has been equipped with guards to prevent contact with drive pulleys and belts.

Compliance will be indicated through a visual inspection of all transfer pumps ~~or compressors~~ to ensure they are equipped with guards to prevent contact with drive pulleys and belts.</td></tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><th>C.4.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The transfer pump on the anhydrous ammonia transport vessel is equipped with guards to prevent contact with drive pulleys and belts</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>C.4.3</td><td>

C.4.3 Transport Vessel Transfer Pump Mounting

The transfer pump must be securely mounted.

Compliance will be indicated through a visual inspection of the transfer pump mount.

<table>
<tr><th>C.4.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The transfer pump is securely mounted</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td><td>

C4.3

The transfer pump ~~or compressor~~ must be securely mounted.

Compliance will be indicated through a visual inspection of the transfer pump mount.

</td></tr>
<tr><td>C.5</td><td>

C.5 TRANSPORT VESSEL LABELS AND MARKINGS

The anhydrous ammonia transport vessel has the required labels and markings.

</td><td>

C5 TRANSPORT VESSEL LABELS AND MARKINGS

The anhydrous ammonia transport vessel has the required labels and markings.

~~C5 Minimum Requirements~~

</td></tr>
<tr><td>C.5.1</td><td>

C.5.1 Transport Vessel Labelling

The anhydrous ammonia transport vessel must be clearly marked “ANHYDROUS AMMONIA INHALATION HAZARD” with the required labelling for ammonia in a colour distinct from the white background of the pressure vessel. Letters must be a minimum of two (2) inches (50 mm) inches in height. Labelling must appear on the two long sides of the vessel.

Recommended Best Practices: Best Practice is 4-inch lettering.

<table>
<tr><th>C5.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The anhydrous ammonia transport vessel is clearly labelled with “ANHYDROUS AMMONIA INHALATION</td><td></td></tr>
</table>

</td><td>

C5.1

The anhydrous ammonia transport vessel must be clearly marked with the required labelling for ammonia in a colour distinct from the white background of the pressure vessel. Letters must be a minimum of ~~4 inches in height.~~ ~~Signage~~ must appear on the two long sides of the vessel.

~~C5.2~~

The anhydrous ammonia transport vessel must be clearly marked ~~with the words~~ “INHALATION HAZARD” ~~on the two long sides of the vessel in a colour distinct from the white background of the pressure vessel. Letters must be a minimum of 4 inches in height.~~

</td></tr>
</table>

	HAZARD" in a colour contrasting from the white background of the pressure vessel.	
	Letters are a minimum of two inches (2") in height.	
	Labelling appears on the two long sides of the vessel	
	Meets Best Practices Requirements - Letters are a minimum of four inches (4") in height.	
	Comments	
C.5.2	**C.5.2 Transport Vessel Placards** Transport vessels must display proper placards as per Transport Canada's Transportation of Dangerous Goods Regulations. *Compliance will be indicated through a visual inspection of signage on transport vessels to ensure signage meets requirements.*	**C5.~~3~~** ~~Current Transportation of Dangerous Goods (TDG) placards must be mounted on the unit as required by regulations.~~
	C.5.2 Audit Requirements — **Y/N**	
	Current Transportation of Dangerous Goods (TDG) placards are mounted on all four sides of the units as required by regulations	
	Comments	
C.5.3	**C.5.3 Transport Vessel Pressure Test Labels** CSA B620 Pressure test dates are on the vessel and match documentation. *Compliance will be indicated through a visual inspection of pressure test labelling on transport vessels*	**C5.~~4~~** Pressure test dates are on the vessel.
	C5.3 Audit Requirements — **Y/N**	
	Pressure test dates are on the vessel	
	Comments	

<table>
<tr>
<td>C.5.4</td>
<td>

C.5.4 Transport Vessel Safe Handling Procedures

Safe handling procedures must be located on the vessel.

Compliance will be indicated through a visual inspection of the label on the vessel to ensure the label meets requirements as per User Guide.

<table>
<tr><th>C.5.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Safe handling procedures are located on the vessel.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td>
<td>

C5.~~5~~

Safe handling procedures must be located on the vessel.

</td>
</tr>
<tr>
<td>C.5.5</td>
<td>

C.5.5 Transport Vessel Emergency First Aid Procedures

Emergency first aid procedures must be located on the vessel.

Compliance will be indicated through a visual inspection of the labelling on the vessel to ensure the labelling meets requirements as per User Guide.

<table>
<tr><th>C.5.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Emergency first aid procedures are located on the vessel</td><td></td></tr>
<tr><td>Emergency first aid labelling meets requirements as per User Guide.</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td>
<td>

C5.~~6~~

Emergency first aid procedures must be located on the vessel.

</td>
</tr>
<tr>
<td>C.5.6</td>
<td>

C.5.6 Transport Vessel Emergency Contact

Emergency contact phone number must be legible from both sides of the tank and in a contrasting colour from the vessel.

Compliance will be indicated through a visual inspection of labels and markings on the vessel to ensure they meet requirements.

<table>
<tr><th>C.5.6 Audit Requirements</th><th>Y/N</th></tr>
</table>

</td>
<td>

C5.~~7~~

Emergency contact number must be legible from both sides of the tank and in a contrasting colour from the vessel.

Compliance will be indicated through a visual inspection of signage on the vessel to ensure signage meets requirements.

</td>
</tr>
</table>

	Emergency contact phone number is legible from both sides of the tank and in a contrasting colour from the vessel Comments	
C.6	**C.6 TRANSPORT VEHICLE EMERGENCY AND PERSONAL PROTECTIVE EQUIPMENT** The anhydrous ammonia transport vessel is equipped with the required emergency and personal protective equipment. (a) Each transport vehicle must have the following: C6.1 First Aid kit C6.2 At minimum, 3A 10BC (5 lb) fire extinguisher with nozzle C6.3 Minimum of 20 liters (5 gallons) of clean, fresh emergency water C6.4 Roadside emergency kit C6.5 Communication device (e.g. cell phone or two-way radio) (b) Each transport operator must be supplied their own Personal Protective Equipment (PPE) as follows and be instructed on its use, limitations, inspection, and maintenance. C6.6 Full-face cartridge style respirator complete with extra cartridges C6.7 One- or two-piece anhydrous ammonia resistant suit (for example, neoprene) C6.8 Gauntlet style anhydrous ammonia resistant gloves (for example, neoprene) C6.9 CSA approved safety boot with a minimum six inch upper C.6.10 Individual emergency water bottle filled with clean, fresh water	**C6 EMERGENCY AND PERSONAL PROTECTIVE EQUIPMENT** The anhydrous ammonia transport vessel is equipped with the required emergency equipment. ~~**C6 Minimum Requirements**~~ (a) Each transport vehicle must have the following: C6.1 First Aid kit C6.2 At minimum, 3A 10BC (5 lb) fire extinguisher with nozzle. C6.3 Minimum of 20 liters (5 gallons) of clean, fresh emergency water. C6.4 ~~Road side~~ emergency kit. C6.5 Communication device (e.g. cell phone or two-way radio) (b) Each transport operator must be ~~equipped~~ and instructed on ~~the proper use of the following personal protective equipment:~~ C6.6 ~~One~~ full-face respirator complete with ~~spare~~ cartridge~~/canister~~. C6.7 One-or two-piece anhydrous ammonia resistant suit. C6.8 Gauntlet style anhydrous ammonia resistant gloves. C6.9 CSA approved safety boots with a minimum six inch upper. C6.10 Individual water bottle with clean, fresh water. *Compliance will be indicated through a visual inspection of personal protective equipment to ensure proper type ~~and~~ quantity ~~for personnel operating the transport vessel.~~*

(c) Transport Operators are required to wear PPE when handling, transferring and or repairing equipment that has potential for ammonia release that could cause injury from anhydrous ammonia. PPE is required to be worn

- Any time a valve is being actuated (being turned on or off)
- When a hose is being handled
- When performing a connection or disconnection and/or performing any bleed down of connections
- When troubleshooting or conducting maintenance operations on pressurized or potentially pressurized equipment such as meters or flow meters on application equipment.

(Note: *After connection and while filling there is no requirement for the operator to be fully dressed, for example while monitoring the transferring process, completing an inspection of the unit being filled, or updating documentation.)*

Compliance will be indicated through a visual inspection of transport vehicle emergency equipment and transport operator personal protective equipment and actions to ensure proper type, quantity, and usage of PPE.

C.6 Audit Requirements	**Y/N**
Each transport vehicle has at a minimum the following emergency response equipment: First Aid kit, 3A 10BC 5 lb fire extinguisher, 20 L (5 gallons) clean water, road-side emergency kit, and a communication device (Items C6.1-C6.5).	
PPE as specified in Section C6.6 - C6.10 (Full-face respirator, spare respirator cartridge/cannister, anhydrous ammonia resistant suit, anhydrous ammonia resistant gauntlet gloves, CSA approved safety boots with a minimum 6” upper, and a water bottle containing clean, fresh water).	

	Full PPE worn when valves being turned on or off; during connections/disconnections or connection bleed downs; and when conducting maintenance operations on pressurized or potentially pressurized equipment.	
	Comments	

C.7	**C.7 TRANSPORT VEHICLE CERTIFICATION** Commercial licenced vehicles transporting anhydrous ammonia requiring Commercial Vehicle Safety Alliance (CVSA) inspection must have current certification. Other vehicles must pass an annual safety inspection. *Compliance will be indicated through an examination of the current CVSA safety sticker on vehicles or trailers requiring that inspection and maintenance records that indicate that other vehicles transporting anhydrous ammonia at the operation and not requiring CVSA certification have passed a current annual safety inspection.*	**C7 TRANSPORT VEHICLE CERTIFICATION** ~~C7~~ ~~Certain~~ licenced vehicles transporting anhydrous ammonia ~~must pass an annual~~ Commercial Vehicle Safety Alliance (CVSA) inspection. Other vehicles must pass an annual safety inspection. Compliance will be indicated through an examination of the current CVSA safety sticker on vehicles or trailers requiring that inspection and maintenance records that indicate that other vehicles transporting anhydrous ammonia at the operation have passed ~~an~~ annual safety inspection.

C.7 Audit Requirements	**Y/N**
Commercial licenced vehicles transporting anhydrous ammonia have current Commercial Vehicle Safety Alliance (CVSA) certification as required.	
Based on maintenance records vehicles transporting anhydrous ammonia and not requiring CVSA certification have passed a current annual safety inspection.	
Comments	

C.8	**C.8 SECURITY FOR ANHYDROUS AMMONIA TRANSPORT VESSELS** The anhydrous ammonia transport vessel is secured in accordance with the security protocol. All transport vessels at the anhydrous ammonia operation comply with the following measures to prevent unauthorized access to the product:	**C8 SECURITY FOR ANHYDROUS AMMONIA TRANSPORT VESSELS** The anhydrous ammonia transport vessel is secured in accordance with the security protocol. ~~**C8 Transport Vessel Security Protocol**~~

C8.1 **Securing While in Transport**

Drivers responsible for the transportation of anhydrous ammonia can stop for short break periods (less than one (1) hour). However, main access valves on anhydrous ammonia transport vessels must be secured if the driver is out of visual contact with the vessel for more than 30 minutes.

C8.2 **Parking Near Evacuation-Sensitive Occupancies**

Anhydrous ammonia transport vessels must not be parked within 500 metres of high occupancy facilities such as hospitals, schools, shopping malls, daycare centres and senior care homes, unless the vessel has been emptied and de-pressured.

C8.3 **Off-site storage of Transport Vessels**

In addition to the requirements defined in C8.2 in this section, transport vessels cannot be stored, other than for maintenance periods not exceeding 72 hours, within city or town limits unless at an Ammonia Code compliant site, or the vessels have been emptied and de-pressurized.

C8.4 **Mobile Ammonia Vessels**

Delivery units must be stored at a certified site within a locked, fenced area that complies with the Code fencing requirements (see Section A.4.1) or they have been emptied and de-pressurized. Storing vessels inside a roofed structure is prohibited unless the vessel has been emptied and depressurized.

Compliance will be indicated by examination of a signed and dated standard operating procedures.

C.8 Audit Requirements	**Y/N**
All transport vessels at the anhydrous ammonia operation comply with the following measures to prevent unauthorized access to the product: C.8.1 - Securing while in transport, C.8.2 - Parking near evacuation-sensitive occupancies,	

All transport vessels at the anhydrous ammonia operation comply with the following measures to prevent unauthorized access to the product:

C8.1 **Securing While in Transport** – Drivers responsible for the transportation of anhydrous ammonia can stop for short break periods (less than 1 hour). However, main access valves on anhydrous ammonia transport vessels ~~will have to~~ be secured if the driver is out of visual contact with the vessel for more than 30 minutes.

C8.2 **Parking Near Evacuation-Sensitive Occupancies** – Anhydrous ammonia transport vessels must not be parked within 500 metres of high occupancy facilities such as hospitals, schools, shopping malls, daycare centres and senior care homes, unless the vessel has been emptied and de-pressured.

C8.3 **Off-site storage of Transport Vessels** – In addition to the requirements defined in ~~C9.2~~ in this section, transport vessels cannot be stored, other than for maintenance periods not exceeding 72 hours, within city or town limits unless at a Code-compliant site, or the vessels have been emptied and de-pressurized.

C8.4 ~~Mobile ammonia vessels~~ must ~~have liquid valves secured while they are in storage unless they are~~ stored inside a locked, fenced ~~compound~~ that complies with the Code fencing requirements (~~see Site Security Section)~~ or they have been emptied and ~~de-pressured~~. Storing vessels inside a ~~closed~~ structure is prohibited unless the vessel has been emptied and depressurized.

Compliance will be indicated by examination of a signed and dated standard operating procedures ~~or training records.~~

	C.8.3 - Off-site storage of transport vessels, C.8.4 - Mobile ammonia vessels must be stored at a certified site within a fenced area when pressurized.	
	There is proof of signed and dated standard operating procedures.	
	Comments	
SECTION C - Part 2	**SECTION C – PART 2: APPLICATION EQUIPMENT** For the purposes of this section, the following equipment must comply with the standards defined in this section: **Nurse or Applicator Tank** – nurse tanks or applicator tanks are anhydrous ammonia tanks that are mounted on a farm wagon or agricultural implement and are designed to be used in the field for applying anhydrous ammonia. This section applies only to nurse or applicator tanks.	~~**SECTION C – TRANSPORT AND APPLICATION EQUIPMENT**~~ ~~This section contains the standards for managing risks associated with anhydrous ammonia application equipment.~~ For the purposes of this section, the following equipment must comply with the standards defined in this section: **Nurse or Applicator Tank** – nurse tanks or applicator tanks are anhydrous ammonia tanks that are mounted on a farm wagon or agricultural implement and are designed to be used in the field for applying anhydrous ammonia. This section applies only to nurse or applicator tanks. **SECTION C – PART 2: APPLICATION EQUIPMENT**
C.9	**C.9 NURSE AND APPLICATOR TANK DESIGN AND CONSTRUCTION** All anhydrous ammonia nurse tanks and applicator tanks have been designed, constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations/Standards.	**C9 NURSE AND APPLICATOR TANK DESIGN AND CONSTRUCTION** All anhydrous ammonia nurse tanks and applicator tanks have been designed, constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations. ~~**C9 Minimum Requirements**~~
C.9.1	**C.9.1 Nurse and Applicator Tanks** The nurse tanks and applicator tanks have been designed, constructed, operated and maintained in accordance with the applicable Codes (CSA B620 / B622). *Compliance will be indicated by visual inspection of data plate for ASME / Transport Canada certification and through documentation.*	**C9.1** The nurse tanks and applicator tanks have been designed and constructed in accordance with the applicable ~~c~~odes. ~~Consult Federal/Provincial Boiler and Pressure Vessel Regulations for applicable code requirements.~~ *Compliance will be indicated by visual inspection of ~~dataplate~~ for ASME certification ~~or~~ through documentation.*

	C9.1 Audit Requirements — **Y/N** The nurse tanks and applicator tanks are designed and constructed in accordance with the applicable Codes. A visual inspection of data plate for ASME certification and through documentation showing tanks meet requirements. Comments	
C.9.2	**C.9.2 Nurse and Applicator Tank Specification** The Canadian Registration Number (CRN), Transport Canada Registration Number (TCRN) or recognized equivalent specification is legible and is on the nameplate affixed to the vessels. *Compliance will be indicated through a visual inspection of the nameplate and through documentation for tanks unavailable for inspection.* **C.9.2 Audit Requirements** — **Y/N** The Canadian registration Number (CRN), Transport Canada registration Number (TCRN) or recognized equivalent specification is legible and is on the nameplate affixed to the vessels A visual inspection of the nameplate and / or documentation for tanks unavailable for inspection has occurred Comments	**C9.2** The Canadian Registration Number (CRN), Transport Canada Registration Number (TCRN) or recognized equivalent specification is legible and is on the nameplate affixed to the vessels. *Compliance will be indicated through a visual inspection of the nameplate and through documentation for tanks unavailable for inspection.*
C.9.3	**C.9.3 Nurse and Applicator Tank Maintenance and Testing** All nurse and applicator tanks have received scheduled maintenance and testing in accordance with regulatory requirements. *Compliance will be indicated through a visual inspection of vessel markings and through documentation. Inspection frequency is*	**C9.3** All nurse and applicator tanks have received scheduled maintenance and testing in accordance with regulatory requirements.

<table>
<tr>
<td></td>
<td>determined by CSA B620 Table 7.1. Tank pressure and leak testing is determined as per B620 requirements.
<table>
<tr><th>C.9.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All nurse and applicator tanks have received scheduled maintenance and testing in accordance with regulatory requirements</td><td></td></tr>
<tr><td>A visual inspection of the vessel markings and documentation has met requirements</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table></td>
<td>Compliance will be indicated through a visual inspection of vessel markings ~~or~~ through documentation.</td>
</tr>
<tr>
<td>C.10</td>
<td>C.10 NURSE AND APPLICATOR TANKS VALVES, PIPING, AND GAUGES

All valves, piping and gauges on the anhydrous ammonia nurse and applicator tanks have been designed and constructed in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations/Standards.</td>
<td>C10 NURSE AND APPLICATOR TANKS VALVES, PIPING, AND GAUGES

All valves, piping and gauges on the anhydrous ammonia nurse and applicator tanks have been designed and constructed in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.</td>
</tr>
<tr>
<td>C.10.1</td>
<td>C.10.1 Nurse and Applicator Tank Withdrawal Valve

All nurse and applicator tanks are equipped with fill or withdrawal valves that incorporate excess flow valves that are correctly sized.

Compliance will be indicated through a visual inspection of vessel markings for CSA B260 compliance and through documentation.
<table>
<tr><th>C.10.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All nurse and applicator tanks are equipped with fill or withdrawal valves that incorporate excess flow valves that are correctly sized.</td><td></td></tr>
<tr><td>The excess flow valves on outlet lines have been correctly sized in accordance with the restriction of the piping system to ensure effective operation of the excess flow valve</td><td></td></tr>
</table></td>
<td>C10.1

All nurse and applicator tanks are equipped with fill or withdrawal valves that incorporate excess flow valves that are correctly sized.

Compliance will be indicated through a ~~signed and dated requirements list from the current owner or person responsible indicating the presence of appropriately sized excess flow valves.~~</td>
</tr>
</table>

	Vessel has markings for CSA B620 and documentation showing compliance.	
	Comments	

C.10.2	**C.10.2 Nurse Tank and Applicator Tank Valves** All valves are suitable for anhydrous ammonia service. *Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.*	**C10.2** All valves are suitable for anhydrous ammonia service. *Compliance will be indicated through a ~~signed and dated requirements list from the current owner or person responsible indicating all valves are suitable for anhydrous ammonia service.~~*

C.10.2 Audit Requirements	**Y/N**
All valves are suitable for anhydrous ammonia service as indicated by vessel markings for CSA B620 compliance and through documentation	
Comments	

C.10.3	**C.10.3 Nurse and Applicator Tank Safety Relief Valve** Safety relief valves shall conform to applicable regulations. Valves shall be rated in accordance with tank design pressure. The service life on safety relief valves must not be exceeded. *Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.*	**C10.3** Safety relief valves shall conform to applicable regulations. Valves shall be rated in accordance with tank design pressure. ~~Safety relief valves shall also be equipped with raincaps and rollover protection.~~ The ~~expiry date~~ on safety relief valves must not be exceeded. *Compliance will be indicated ~~in two parts. First, an examination of documentary evidence of safety relief valves change outs. Second, a visual inspection to determine the presence of raincaps and roll-over protection.~~*

C.10.3 Audit Requirements	**Y/N**
Safety relief valves meet the applicable regulation	
Vessel has markings for CSA B620 compliance and documentation showing compliance	
The service life on safety relief valves has not been exceeded	
Comments	

<table>
<tr>
<td>C.10.4</td>
<td>

C.10.4 Nurse and Applicator Tank Hydrostatic Relief

Hydrostatic relief valves are installed in accordance with applicable regulatory requirements. The service life for the hydrostatic relief valves has not been exceeded.

Compliance will be indicated through a visual inspection of the positioning of the hydrostatic relief valves in the piping system, and a visual inspection of documentary evidence to determine if their service life has been exceeded.

Recommended Best Practices: Best practice is to direct the hydrostatic relief valves away from the operator or tubed to a safe discharge location.

<table>
<tr><th>C.10.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Hydrostatic relief valves have been installed in accordance with the regulatory requirements</td><td></td></tr>
<tr><td>Documentation shows that the service life for the hydrostatic relief valves has not been exceeded</td><td></td></tr>
<tr><td>A visual inspection of positioning of hydrostatic relief valves in the piping system indicates compliance</td><td></td></tr>
<tr><td>Meets Best Practices Requirements – Hydrostatic relief valve is directed away from the operator or tubed to a safe discharge location</td><td></td></tr>
<tr><td>Comments</td><td></td></tr>
</table>

</td>
<td>

C10.4

Hydrostatic relief valves ~~have been~~ installed ~~to conform to~~ applicable ~~regulations~~. The ~~expiry date~~ for the hydrostatic relief valves has not been exceeded.

Compliance will be indicated through a visual inspection of the positioning of the hydrostatic relief valves in the piping system, and a visual inspection of documentary evidence to determine if their ~~expiry date~~ has been exceeded.

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<tr>
<td>C.10.5</td>
<td>

C.10.5 Nurse Tank Emergency Discharge Control

a) All single nurse tanks with a capacity of 10,000 litres (2,642 USWG) or more, and

b) all multiple nurse tank configurations, and

c) all tanks manufactured on or after January 1, 2017,

must be equipped with emergency discharge control as per CSA B620.

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<td>

C10.5

All ~~new~~ single nurse tanks with a capacity of ~~10, 000~~ litres (2, 642 USWG) or more, ~~or any~~ multiple nurse tank configurations ~~purchased or coming into service~~ on or after January 1, 2017, must be equipped with ~~pull-away protection~~.

~~Effective January 1, 2022, all existing nurse tanks (single with capacity of 10, 000 litres (2, 642 USWG) or more, or any multiple nurse tank configurations purchased before January 1, 2017,~~

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<td>
Compliance will be indicated by inspection of the equipment and demonstration of functionality. Documentation Certificate of Compliance must be referenced for compliance.

Recommended Best Practices: Best practice is all tanks are equipped with emergency discharge control

<table>
<tr><th>C.10.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All single nurse tanks with a capacity of 10, 000 liters (2,642 USWG) or more, any multiple nurse tanks configurations, and tanks manufactured after January 1, 2017, are equipped with emergency discharge control as per CSA B620.</td><td></td></tr>
<tr><td>An inspection of the equipment and documentation, and a demonstration that functionality has met requirements.</td><td></td></tr>
<tr><td>Meets Best Practices Requirements - All tanks are equipped with emergency discharge control</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>
~~must be equipped with pull-away protection; unless regulations require them sooner.~~

Compliance will be indicated by inspection of the equipment and demonstration of functionality.</i
</td>
</tr>
<tr>
<td>C.10.6</td>
<td>
C.10.6 Nurse and Applicator Tank Piping

Any piping on nurse or applicator tanks has been designed and constructed with Schedule 40 and/or Schedule 80 steel or stainless steel pipe. All Schedule 40 pipe has been inspected to ensure no threaded connections were made. All threaded connections must be constructed with a minimum of Schedule 80 pipe.

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.

Recommended Best Practices: Best practice is to standardize all the piping systems to a minimum of Schedule 80.

<table>
<tr><th>C.10.6 Audit Requirements</th><th>Y/N</th></tr>
</table>
</td>
<td>
C10.6 Piping ~~on Nurse and Applicator Tanks – Minimum Requirements~~

Any piping on nurse or applicator tanks has been designed and constructed with Schedule 40 and/or Schedule 80 pipe. All Schedule 40 pipe has been inspected to ensure no threaded connections were made. All threaded connections must be constructed with a minimum of Schedule 80 pipe.

Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance ~~or~~ through documentation.

Best practice is to standardize all the piping systems to a minimum of Schedule 80.
</td>
</tr>
</table>

	Documentary evidence that • piping on nurse of applicator tanks has been designed and constructed with Schedule 40 and/or Schedule 80 steel or stainless steel pipe • Schedule 40 pipe has been inspected to ensure no threaded connections were made • All threaded connections are constructed with a minimum of Schedule 80 pipe	
	A visual inspection and documentary evidence that the vessel markings meet requirements (CSA B620)	
	Meets Best Practices Requirements - all piping systems are a minimum of Schedule 80	
	Comments	
C.10.7	**C.10.7 Nurse and Applicator Tank Fittings** Forged steel, stainless steel, or malleable iron fittings are allowed for anhydrous ammonia piping if they are rated for the correct design pressure. No brass, copper, galvanized or zinc fittings shall be used. *Compliance will be indicated through a visual inspection of the vessel markings for CSA B620 compliance and through documentation.*	**C10.7** Forged steel, stainless steel, or malleable iron fittings are allowed for anhydrous ammonia piping if they are rated for the correct design pressure. No brass, copper, galvanized or zinc fittings shall be used. *Compliance will be indicated through ~~a signed and dated requirements list from the current owner or person responsible indicating that all fittings have been sized and rated for pressures they will be exposed to in the piping system. The letter will also indicate that no brass, galvanized or zinc fittings have been used in the piping system~~.*
	C.10.7 Audit Requirements / **Y/N**	
	Forged steel, stainless steel or malleable iron fittings are rated for the correct design pressure.	
	No brass, copper, or galvanized zinc materials are used	
	Vessel has markings for CSA B620 and documentation showing compliance.	
	Comments	
C.10.8	**C.10.8 Nurse and Applicator Tank Colour Coding**	**C10.8**

<table>
<tr>
<td></td>
<td>All piping must be colour-coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-off activation devices.

Compliance will be indicated through a visual inspection of lines and devices to ensure proper colour coding.

<table>
<tr><th>C.10.8 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All piping is color-coded yellow for vapour lines, orange for liquid lines and blue for emergency shut-off activation devices</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>All piping must be colour-coded yellow for vapour lines ~~and~~ orange for liquid lines. ~~If an emergency shut-off device is installed in the system, the device must be painted blue.~~

Compliance will be indicated through a visual inspection of lines and devices to ensure proper colour coding.</td>
</tr>
<tr>
<td>C.10.9</td>
<td>C.10.9 Nurse and Applicator Tank Hose Used for Piping

All hoses used as part of the piping system on nurse tanks are suitable for ammonia service, have not exceeded their “remove from service” date, shall be inspected annually and shall be pressure tested at the required intervals.

Compliance will be indicated by inspection of hoses on nurse tanks and/or hose test records.

<table>
<tr><th>C.10.9 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses have not exceeded their “remove from service” date</td><td></td></tr>
<tr><td>All hoses have been inspected annually and have been pressure tested at the required intervals.</td><td></td></tr>
<tr><td colspan="2">An inspection of hoses on nurse tanks and/or hose test records displays requirements are met.</td></tr>
</table>
</td>
<td>C10.9

All ~~rubber~~ hoses used as part of the piping system on nurse tanks are suitable for ammonia service, have not exceeded their “remove from service” date, shall be inspected annually and shall be pressure tested at the required intervals.

Compliance will be indicated by inspection of hoses on nurse tanks and/or hose test records.</td>
</tr>
<tr>
<td>C.10.10</td>
<td>C.10.10 Nurse and Applicator Tank Gauges

All gauges on the nurse and applicator tanks and piping system are suitable for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance or through documentation.</td>
<td>C10.10 Gauges ~~on Nurse and Applicator Tanks– Minimum Requirements~~

All gauges on the nurse and applicator tanks and piping system are suitable for anhydrous ammonia service.</td>
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<tr>
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<table>
<tr><th>C.10.10 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All gauges on the nurse and applicator tanks and piping system are suitable for anhydrous ammonia service.</td><td></td></tr>
<tr><td>Documentation / visual inspection of the vessel markings has determined requirements (B620) has been met.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>Compliance will be indicated through a visual inspection of the vessel markings for B620 compliance or through documentation.</td>
</tr>
<tr>
<td>C10.11</td>
<td>
C.10.11 Nurse and Applicator Tank Liquid Level

The nurse and applicator tanks are equipped with a means of determining the liquid level in the vessel. The vessel must be equipped with a magnetic float gauge and a fixed liquid level gauge.

Compliance will be indicated through a visual inspection of the nurse and applicator tanks to determine the presence of an approved level gauge.
<table>
<tr><th>C.10.11 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The vessel is equipped with an approved magnetic float gauge and a fixed liquid level gauge on the nurse and applicator tanks.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>
C10.11

The nurse and applicator tanks are equipped with a means of determining the liquid level in the vessel. The vessel must be equipped with a magnetic float gauge and a fixed liquid level gauge.

Compliance will be indicated through a visual inspection of the nurse and applicator tanks to determine the presence of an approved level gauge.</em
</td>
</tr>
<tr>
<td>C10.12</td>
<td>
C.10.12 Nurse and Applicator Tank Pressure Gauge

The nurse and applicator tanks are equipped with an approved 0-400 psi (0-2,800 kPa) pressure gauge to monitor the pressure of the product in the tank.

Compliance will be indicated through a visual inspection of nurse and applicator tanks to determine the presence of an approved pressure gauge.</em
</td>
<td>
C10.12

The nurse and applicator tanks are equipped with a 0-400 psi (~~28.129~~ kPa) pressure gauge to monitor the pressure of the product in the ~~vessel.~~

Compliance will be indicated through a visual inspection of nurse and applicator tanks to determine the presence of an approved pressure gauge.</em
</td>
</tr>
</table>

<table>
<tr><td></td><td><table><tr><th>C10.12 Audit Requirements</th><th>Y/N</th></tr><tr><td>The nurse and applicator tanks are equipped with an approved 0-400 psi (0-2,800 kPa) pressure gauge t</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td></td></tr>
<tr><td>C.11</td><td>C11 NURSE AND APPLICATOR TANK HOSES

All hoses on the anhydrous ammonia nurse and applicator tanks have been installed and tested in accordance with CSA 620 Vessel Regulations</td><td>C11 NURSE AND APPLICATOR TANK HOSES

All hoses on the anhydrous ammonia nurse and applicator tanks have been installed and tested in accordance with ~~Federal and/or Provincial Boiler and Pressure~~ Vessel Regulations.

<s>C11 Minimum Requirements</s></td></tr>
<tr><td>C.11.1</td><td>C.11.1 Nurse and Applicator Tank Approved Hose

All hoses used on anhydrous ammonia nurse and applicator tanks are clearly marked as approved for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure they have proper markings indicating approval for anhydrous ammonia service.

<table><tr><th>C11.1 Audit Requirements</th><th>Y/N</th></tr><tr><td>All hoses used on anhydrous ammonia nurse and applicator tanks are clearly marked as approved for anhydrous ammonia service.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>C11.1

All hoses used on anhydrous ammonia nurse and applicator tanks are clearly marked as approved for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure they have proper markings indicating approval for anhydrous ammonia service.</td></tr>
<tr><td>C.11.2</td><td>C.11.2 Nurse and Applicator Tank MAWP Transport Vessel Hose Marking

All hoses are marked with their Maximum Allowable Working Pressure (MAWP).

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure they have proper markings indicating the Maximum Allowable Working Pressure.</td><td>C11.2

All hoses are marked with their Maximum Allowable Working Pressure (MAWP).

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure they have proper markings indicating the Maximum Allowable Working Pressure.</td></tr>
</table>

	C11.2 Audit Requirements — **Y/N** All hoses are marked with their Maximum Allowable Working Pressure (MAWP). Comments	
C.11.3	**C.11.3 Nurse Tank and Applicator Tank Hose Expiry** All hoses have not exceeded their manufacturer's "remove from service" date. *Compliance will be indicated through a visual inspection of all hoses to ensure manufacturer's labelled "remove from service" date on the hoses has not been exceeded.* **C11.3 Audit Requirements** — **Y/N** All hoses have not exceeded their manufacturer's "remove from service" date Comments	**C11.3** All hoses have not exceeded their manufacturer's "remove from service" date. *Compliance will be indicated through a visual inspection of all hoses to ensure manufacturer's labelled "remove from service" date on the hoses has not been exceeded.*
C.11.4	**C.11.4 Nurse and Applicator Tank Hose-end Valve** Hose-end valves have been constructed and/or guarded to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard. *Compliance will be indicated by a visual inspection of hose-end valves.* **C11.4 Audit Requirements** — **Y/N** Hose-end valves have been constructed and/or guarded to prevent accidental opening. Comments	**C11.4** Hose-end valves have been constructed and/or guarded to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard. *Compliance will be indicated by a visual inspection of hose-end valves.*
C.11.5	**C.11.5 Nurse and Applicator Tank Hose Couplings** All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.	**C11.5** All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.

<table>
<tr>
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<td>

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type

.

<table>
<tr><th>C11.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type.

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</tr>
<tr>
<td>C.11.6</td>
<td>

C.11.6 Nurse and Applicator Tank Hose Testing

All hoses on nurse tanks and applicators have been annually tested and marked in accordance with the CSA B620 current version standards.

Compliance will be indicated in two parts. First, all nurse and applicator tank hoses will be visually inspected to determine if they have been marked in accordance with CSA B620 standards. Second, the hose testing records will be reviewed to ensure hose testing has been documented and conducted at the appropriate frequency.

<table>
<tr><th>C11.6 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses are marked in accordance with the CSA B620 standards</td><td></td></tr>
<tr><td>Documentation showing all hoses have been annually inspected and tested</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

C11.6

All hoses on nurse tanks and applicators have been annually tested and marked in accordance with the CSA standards.

Compliance will be indicated in two parts. First, all nurse and applicator tank hoses will be visually inspected to determine if they have been marked in accordance with CSA standards. Second, the hose testing records will be reviewed to ensure hose testing has been documented and conducted at the appropriate frequency.

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<tr>
<td>C.11.7</td>
<td>

C.11.7 Nurse and Applicator Tank Breakaway Coupler

Breakaway couplers must be installed on all applicators that are equipped to tow a nurse tank.

Compliance will be indicated through a visual inspection of applicators equipped for towing of nurse tanks to determine if they are equipped with a breakaway coupler.

</td>
<td>

C11.7

Breakaway couplers must be installed on all applicators that are equipped to tow a nurse tank.

Compliance will be indicated through a visual inspection of applicators equipped for towing of nurse tanks to determine if they are equipped with a breakaway coupler.

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<table>
<tr><th>C11.7 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Breakaway couplers are installed on all applicators that are equipped to tow a nurse tank</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td></td>
</tr>
<tr>
<td>C.12</td>
<td>C.12 NURSE TANK AND APPLICATOR TANK VESSEL LABELS AND MARKINGS

Anhydrous ammonia nurse and applicator tanks have the labels and markings as designated by regulatory requirements.</td>
<td>C12 VESSEL LABELS AND MARKINGS

Anhydrous ammonia nurse and applicator tanks have the labels and markings as designated by regulatory requirements.

<s>C12 Minimum Requirement</s>
<s>The nurse or applicator tanks are labelled in accordance with Federal and/or Provincial regulations. These markings will include:</s></td>
</tr>
<tr>
<td>C.12.1</td>
<td>C.12.1 Nurse and Applicator Tank Labels and Markings

Nurse and applicator tanks must be clearly marked “ANHYDROUS AMMONIA INHALATION HAZARD” with the required labelling for ammonia in a colour distinct from the white background of the pressure vessel. Letters must be a minimum of two (2) inches (50 mm) in height. Labelling must appear on the two long sides of the vessel.

Compliance will be indicated through a visual inspection of signage on nurse or applicator tanks to ensure signage meets requirements.

Recommended Best Practices - Letters on ammonia nurse and applicator tanks are a minimum of four (4) inches in height.
<table>
<tr><th>C12.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The nurse and applicator tanks is clearly labelled with “ANHYDROUS AMMONIA INHALATION HAZARD” in a colour contrasting from the white background of the pressure vessel.</td><td></td></tr>
<tr><td>Letters are a minimum of two inches (2”) (50 mm) in height.</td><td></td></tr>
</table>
</td>
<td>C12.1 Nurse and applicator tanks <s>are</s> clearly marked with the required labelling for ammonia in a colour distinct from the white background of the pressure vessel. Letters must be a minimum of 4 inches in height. <s>These labels</s> must appear on the two long sides of the vessel.

<s>C12.2 Nurse and applicator tanks are clearly marked with the words “INHALATION HAZARD” on the two long sides of the vessel in a colour distinct from the white background of the pressure vessel. Letters must be a minimum of -4- inches in height.</s></td>
</tr>
</table>

<table>
<tr><td></td><td><table><tr><td>Labelling appears on the two long sides of the vessel</td><td></td></tr><tr><td>Meets Best Practices Requirements - Letters are a minimum of four inches (4”) in height.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td></td></tr>
<tr><td>C.12.2</td><td>C.12.2 Nurse and Applicator Tank Placards

Nurse and applicator tanks must display proper placards as per Transport Canada’s Transportation of Dangerous Goods Regulations.

Compliance will be indicated through a visual inspection of signage on nurse or applicator tanks to ensure signage meets requirements.

<table><tr><td>C12.2 Audit Requirements</td><td>Y/N</td></tr><tr><td>Current Transportation of Dangerous Goods (TDG) placards are mounted on all four sides of the units as required by regulations</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>C12.~~3~~

Nurse and applicator tanks must display proper placards as per Transport Canada’s Transportation of Dangerous Goods Regulations.</td></tr>
<tr><td>C.12.3</td><td>C.12.3 Nurse and Applicator Tank Pressure Testing Labels

CSA B620 Pressure test dates are on the vessel and match the documentation.

Compliance will be indicated through a visual inspection of pressure test labelling on nurse or applicator tanks.

<table><tr><td>C12.3 Audit Requirements</td><td>Y/N</td></tr><tr><td>Pressure test dates are on the tank and match the documentation</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>C12.~~4~~

~~The vessel testing and inspection labels.~~</td></tr>
<tr><td>C.12.4</td><td>C.12.4 Nurse and Applicator Tank Safe Handling and Emergency First Aid Procedures</td><td>C12.~~5~~</td></tr>
</table>

<table>
<tr>
<td></td>
<td>Safe handling procedures and emergency first aid procedures must be located on the tank.

Compliance will be indicated through a visual inspection of label on the tank to ensure the label meets requirements as per User Guide.

<table>
<tr><th>C12.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Safe handling procedures and emergency first aid procedures are located on the tank.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>Safe handling procedures and emergency first aid procedures ~~are mounted near discharge points~~ on the ~~vessel~~.</td>
</tr>
<tr>
<td>C.12.5</td>
<td>C.12.5 Nurse and Applicator Tank Slow Moving Vehicle Signage

Slow moving vehicle sign on the rear of the tank.

Compliance will be indicated through a visual inspection of signage on nurse or applicator tanks to ensure signage meets requirements.

<table>
<tr><th>C12.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Slow moving vehicle sign located on rear of the vessel.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>C12.~~6~~

Slow moving vehicle sign on the rear of the ~~vessel.~~</td>
</tr>
<tr>
<td>C.12.6</td>
<td>C.12.6 Nurse and Applicator Tank Emergency Contact Phone Numbers

Emergency contact phone numbers must be located on both sides of the tank and in a contrasting colour from the vessel.

Compliance will be indicated through a visual inspection of labels and markings on the tanks to ensure they meet requirements.

<table>
<tr><th>C12.6 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Emergency contact phone number is legible from both sides of the tank and in a contrasting colour from the vessel.</td><td></td></tr>
</table>
</td>
<td>C12.~~7~~

Emergency contact numbers must be located on both sides of the tank and in a contrasting colour from the vessel.

Compliance will be indicated through a visual inspection of ~~signage~~ on ~~nurse or applicator~~ tanks to ensure ~~signage meets~~ requirements.</td>
</tr>
</table>

<table>
<tr><td></td><td>Comments</td><td></td></tr>
<tr><td>C.13</td><td>C.13 NURSE AND APPLICATOR TANK PERSONAL PROTECTIVE EQUIPMENT

Anhydrous ammonia nurse and applicator tanks are equipped with the required personal protective equipment for use by the farmer and their employees.

Each nurse and applicator unit must have the following:

C.13.1 Indirect or non-vented goggles
C.13.2 Anhydrous ammonia resistant gloves
C.13.3 Individual water bottle with clean, fresh water
C.13.4 Minimum of five (5) gallons of clean, fresh emergency water. Twin nurse tank units must have as a minimum, two five (5) gallon water tanks, one on each side.

Compliance will be indicated through a visual inspection of safety equipment to ensure proper type and quantity.

Recommended Best Practices - Best practice is to have a minimum of 10 gallons of emergency water.

<table><tr><th>C13 Audit Requirements</th><th>Y/N</th></tr><tr><td>Compliance has been indicated through a visual inspection of each nurse/applicator tank safety equipment to ensure proper type and quantity.</td><td></td></tr><tr><td>Meets Best Practices Requirements - Minimum of 10 gallons of emergency water</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>C13 NURSE AND APPLICATOR TANK PERSONAL PROTECTIVE EQUIPMENT

Anhydrous ammonia nurse and applicator tanks are equipped with the required personal protective equipment.

<s>C13 Minimum Requirements</s>
Each nurse and applicator unit must have the following:

C13.1 Indirect or non-vented goggles.
C13.2 Anhydrous ammonia resistant gloves.
C13.3 Individual water bottle with clean, fresh water.
C13.4 Minimum of 5 gallons of clean, fresh emergency water. Twin nurse tank units must have as a minimum, two 5 gallon water tanks, one on each side. Best practice is to have a minimum of 10 gallons of emergency water.

Compliance will be indicated through a visual inspection of safety equipment to ensure proper type and quantity. <s>Where personal protective equipment is issued to customers (i.e. instead of accompanying nurse tanks, etc.), compliance will be indicated by documentation showing that the equipment has been issued.</s></td></tr>
<tr><td>C.14</td><td>C.14 NURSE AND APPLICATOR TANK TOW VEHICLE REQUIREMENTS

All vehicles used for towing anhydrous ammonia nurse wagons to and from the point of application of the product must meet</td><td>C14 TOW VEHICLE REQUIREMENTS

All vehicles used for towing anhydrous ammonia nurse wagons to and from the point of application of the product must meet</td></tr>
</table>

minimum capacity requirements in accordance with the size of nurse tank they are towing.

In addition to regulatory requirements, tow vehicles used for transporting anhydrous ammonia nurse wagons must be rated for the size and weight of the nurse tank they are towing. Refer to requirements specified in the applicable Highway Traffic Act.

Commercial licenced vehicles transporting anhydrous ammonia requiring Commercial Vehicle Safety Alliance (CVSA) inspection must have current certification. Other vehicles must pass an annual safety inspection.

Compliance will be indicated through a signed and dated requirements list/letter from the current Owner / Operator or person responsible indicating that all tow vehicles have met minimum requirements in accordance with the size of the nurse tank they are towing, or through inspection of corporate policies/training records.

Compliance will be indicated through a visual examination of the current CVSA safety sticker on commercially licenced vehicles transporting ammonia and through documentary evidence of inspection and maintenance records to indicate that other vehicles transporting anhydrous ammonia at the operation and not requiring CVSA certification have passed a current annual safety inspection.

C.14 Audit Requirements	**Y/N**
The Owner / Operator / person responsible has displayed a signed and dated requirements list/letter indicating that all tow vehicles have met minimum requirements which are in accordance with the size of the nurse tank being towed, or through inspection of corporate policies / training records	
A visual inspection that CVSA safety stickers appear on commercially licenced vehicles transporting anhydrous ammonia and documentary evidence that all other vehicles transporting anhydrous ammonia at the operation not requiring CVSA certification have passed a current annual safety inspection.	

minimum capacity requirements in accordance with the size of nurse tank they are towing.

~~C14 Minimum Requirements~~

In addition to regulatory requirements, tow vehicles used for transporting anhydrous ammonia nurse wagons must be rated for the size and weight of the nurse tank they are towing. Refer to requirements specified in the applicable Highway Traffic Act.

Compliance will be indicated through a signed and dated requirements list from the current ~~owner~~ or person responsible indicating that all tow vehicles have met minimum requirements in accordance with the size of the nurse tank they are towing, or through inspection of corporate policies/training records.

	Comments	
C.15	**C.15 LIGHTING REQUIREMENTS FOR TOWING NURSE AND APPLICATOR TANKS** All anhydrous ammonia tanks or applicators being towed by licenced vehicles on roads must be equipped with lighting in accordance with the applicable Highway Traffic Act or Transport Regulation. If the size or configuration of the tanks or applicators being towed prevents following drivers from seeing the signal and/or brake lights of the towing vehicle, the tank or applicator must have the following equipment to provide warning to following drivers (either permanently or temporarily mounted): (a) Stop lights (b) Turn signal lights (c) Tail lights (d) Reflectors *Compliance will be indicated through visual inspection and functional demonstration of the equipment by the current Owner / Operator or person responsible indicating that all tow vehicles have been equipped with lighting (stop lights, turn signal lights, taillights) if following drivers cannot see tow vehicle signal and brake lights.* **C15 Audit Requirements** — **Y/N** Installation of brake, signal and tail lights, as well as function demonstration of these lights whether temporarily or permanently mounted on the tank or applicator. — Y/N Comments	**C15 LIGHTING REQUIREMENTS FOR TOWING** All anhydrous ammonia tanks or applicators being towed by licenced vehicles on roads must be equipped with lighting in accordance with the applicable Highway Traffic Act or Transport Regulation. ~~**C15 Minimum Requirements**~~ If the size or configuration of the tanks or applicators being towed prevents following drivers from seeing the signal lights of the towing vehicle, the tank or applicator must have the following equipment to provide warning to following drivers (either permanently or temporarily mounted): (a) Stop lights (b) Turn signal lights (c) Tail lights ~~or reflectors~~ ~~When transporting tanks or applicators with a farm tractor, the best practice is to enhance the visibility of the tank or applicator through the use of reflective devices.~~ *Compliance will be indicated through ~~documentation from~~ the current ~~owner~~ or person responsible indicating that all tow vehicles have been equipped with lighting ~~to allow~~ following drivers ~~to~~ see signal lights ~~from the tow vehicle and/or by visual inspection of the equipment.~~*
C.16	**C.16 SECURITY FOR ANHYDROUS AMMONIA NURSE AND APPLICATOR TANKS** All anhydrous ammonia nurse and applicator tanks are secured in accordance with the security protocol.	**C16 SECURITY FOR ANHYDROUS AMMONIA NURSE AND APPLICATOR TANKS** All anhydrous ammonia nurse and applicator tanks are secured in accordance with the security protocol.

<table>
<tr><td></td><td>C16 Nurse and Applicator Tanks Security Protocol

Nurse and applicator tanks at the anhydrous ammonia operation comply with the following measures to prevent unauthorized access to anhydrous ammonia:</td><td>C16 Nurse and Applicator Tanks Security Protocol:

Nurse and applicator tanks at the anhydrous ammonia operation comply with the following measures to prevent unauthorized access to ~~the product~~:</td></tr>
<tr><td>C.16.1</td><td>C.16.1 Securing Nurse and Applicator Tanks While in Transport

Drivers responsible for the transportation of anhydrous ammonia nurse and applicator tanks can stop for short break periods (less than one (1) hour). However, main access valves on anhydrous ammonia nurse and applicator tanks must be secured if the driver is out of visual contact for more than 30 minutes.

Compliance is demonstrated through review of Safe Operating Procedure.

<table><tr><th>C16.1 Audit Requirements</th><th>Y/N</th></tr><tr><td>An examination of standard operating procedures indicates compliance.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>C16.1 Securing While in Transport –

Drivers responsible for the transportation of anhydrous ammonia nurse and applicator tanks can stop for short break periods (less than 1 hour). However, main access valves on anhydrous ammonia nurse and applicator tanks must be secured if the driver is out of visual contact for more than 30 minutes.</td></tr>
<tr><td>C.16.2</td><td>C.16.2 Nurse and Applicator Tank Parking near Evacuation-Sensitive Occupancies

Anhydrous ammonia nurse and applicator tanks must not be parked within 500 metres of high occupancy facilities such as hospitals, schools, shopping malls, daycare centres and senior care homes unless the vessels have been emptied and de-pressured.

Compliance will be indicated through an examination of Standard Operating Procedures.

<table><tr><th>C16.2 Audit Requirements</th><th>Y/N</th></tr><tr><td>An examination of standard operating procedures indicates compliance.</td><td></td></tr></table></td><td>C16.2 Parking Near Evacuation-Sensitive Occupancies –

Anhydrous ammonia nurse and applicator tanks must not be parked within 500 metres of high occupancy facilities such as hospitals, schools, shopping malls, daycare centres and senior care homes unless the vessels have been emptied and de-pressured.</td></tr>
</table>

	Comments	
C.16.3	**C.16.3 Storage of Nurse and Applicator Tanks** a) In addition to the requirements defined in C.16.2 in this section, nurse and applicator tanks cannot be stored, other than for maintenance periods not exceeding 72 hours, within city or town limits unless they are stored at an Ammonia Code-compliant site or the tanks have been emptied and de-pressurized. b) In addition, nurse and applicator tanks must be secured against unauthorized access based on requirements in section A.4.1, or they have been emptied and de-pressurized. *Compliance will be indicated through an examination of Standard Operating Procedures.* **C16.3 Audit Requirements** | **Y/N** An examination of standard operating procedures indicates compliance. | Comments	**C16.3 Storage of Nurse and Applicator Tanks** a) In addition to the requirements defined in ~~C17.2~~ in this section, nurse and applicator tanks cannot be stored, other than for maintenance periods not exceeding 72 hours, within city or town limits unless they are stored at a Code-compliant site or the tanks have been emptied and ~~de-pressured~~. b) In addition, nurse and applicator tanks must be secured against unauthorised access ~~by one of the three methods detailed~~ in section A4.1 ~~of this Code~~, or they have been emptied and ~~de-pressured.~~
C.16.4	**C.16.4 Securing of nurse and applicator tanks at farm locations** Farmers must be instructed on the proper measures to take to secure nurse and applicator tanks at farm locations. These instructions must include: a) Nurse or applicator tanks must have their main access valves secured while they are being stored overnight at a farm location or in the field. Storing the vessels inside a roofed structure is prohibited unless the vessel has been emptied and de-pressurized. b) Nurse or applicator tanks that remain in the field overnight should be positioned to discourage tampering.	**C16.4 Securing of nurse and applicator tanks at farm locations** Farmers must be instructed on the proper measures to take to secure nurse and applicator tanks at farm locations. These instructions must include: a) Nurse or applicator tanks must have their main access valves secured while they are being stored overnight at a farm location or in the field. Storing the vessels inside a ~~locked building~~ is prohibited unless the vessel has been emptied and de-pressurized. b) Nurse or applicator tanks that remain in the field overnight should be positioned to discourage tampering.

	Compliance will be indicated through an examination of Standard Operating Procedures and training records. **C16.4 Audit Requirements** — **Y/N** An examination of standard operating procedures or end user training records indicates compliance — [ ] Comments	*Compliance will be indicated ~~in two parts. First,~~ through an examination ~~of signed standard operating procedures~~ and training records~~. Second, through a visual examination of a signed and dated letter from the current owner or person responsible, to the farmer advising them of the security requirements~~.*
C.17	**C.17 NURSE AND APPLICATOR RUNNING GEAR INSPECTION AND MAINTENANCE PROTOCOL** All nurse and applicator running gear shall be inspected and maintained to prevent running gear failures.	**C17 NURSE AND APPLICATOR ~~TANKS~~ INSPECTION AND MAINTENANCE PROTOCOL** All nurse and applicator ~~tanks~~ shall be inspected and maintained to prevent running gear failures. **~~C17 Minimum Requirements~~**
C.17.1	**C.17.1 Nurse and Applicator Running Gear Inspection** Nurse and applicator running gear shall be visually inspected daily during operational periods and documented. *Compliance will be indicated through a review of the preventive maintenance program and records.* **C17.1 Audit Requirements** — **Y/N** Nurse and applicator running gear has been visually inspected daily during operational periods as evidenced by written inspection records. — [ ] Comments	**C17.1** Nurse and applicator ~~tank~~ running gear shall be visually inspected daily during operational periods.
C.17.2	**C.17.2 Nurse and Applicator Running Gear Preventative Maintenance Program** A preventive maintenance program shall be in place for nurse and applicator running gear. Preventive maintenance programs shall include detailed visual inspection of tires, wheel bearings, frames, reaches, hitches and tank mountings. Inspections shall be completed seasonally, and records kept.	**C17.2** A preventive maintenance program shall be in place for nurse and applicator ~~tank~~ running gear. Preventive maintenance programs shall include detailed visual inspection of tires, wheel bearings, ~~kingpins~~, frames, reaches, hitches, tank mountings ~~and piping assemblies.~~ Inspections shall be completed seasonally and records kept.

<table>
<tr>
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Compliance will be indicated through a review of the preventive maintenance program and records.

<table>
<tr><th>C17.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Preventive maintenance programs include detailed visual inspection of tires, wheel bearings, frames, reaches, hitches and tank mountings.</td><td></td></tr>
<tr><td>Inspections have been completed seasonally and records kept</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td></td>
</tr>
<tr>
<td>C.17.3</td>
<td>

C.17.3 Physical Inspection of Undercarriage

A preventive maintenance program shall include a physical inspection including disassembly of wheel bearings, kingpins, frames, reaches, hitches and tank mountings. Inspections shall be completed every five (5) years and records kept.

Compliance will be indicated through a review of the preventive maintenance program and records.

<table>
<tr><th>C17.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>A preventative maintenance program includes a physical inspection including disassembly of wheel bearings, kingpins, frames, reaches, hitches, and tank mountings.</td><td></td></tr>
<tr><td>Inspections have been completed every five (5) years and records kept</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

C17.3

A preventive maintenance program shall include a physical inspection including disassembly of wheel bearings, kingpins, frames, reaches, hitches, tank mountings ~~and piping assemblies.~~ Inspections shall be completed every ~~5~~ years and records kept.

Compliance will be indicated through a review of the preventive maintenance program.

</td>
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<tr>
<td>C.18</td>
<td>

C.18 MOBILE TANK DATABASE PROTOCOL

All sites are required to submit data electronically to Fertilizer Canada on all nurse and applicator tanks and transport delivery unit tanks owned by the retail site and for all producer-owned nurse and applicator tanks. Data is to be submitted every two

</td>
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</table>

	years in advance of being audited/re-audited for certification under the Ammonia Code of Practice.	
C.18.1	**C.18.1 Retail-Owned Nurse Tanks/Applicator Tanks** Data has been submitted to Fertilizer Canada for all retail-owned nurse tanks/applicator tanks within the current calendar year. *Compliance will be verified by checking the online reporting system for a submission by the site within the current calendar year.* **C18.1 Audit Requirements** — **Y/N** Retail-owned nurse and applicator tanks data has been submitted to Fertilizer Canada within the current calendar year. — Comments	
C.18.2	**C.18.2 Producer-Owned Nurse Tanks/Applicator Tanks** Data has been submitted to Fertilizer Canada for all producer owned nurse tanks/applicator tanks within the current calendar year. *Compliance will be verified by checking the online reporting system for a submission by the site within the current calendar year.* **C18.2 Audit Requirements** — **Y/N** Producer-Owned nurse and applicator tanks data has been submitted to Fertilizer Canada within the current calendar year. — Comments	
C.18.3	**C18.3 Retail-Owned Transport Delivery Tanks** Data has been submitted to Fertilizer Canada for all retail-owned Transport Delivery tanks within the current calendar year. *Compliance will be verified by checking the online reporting system for a submission by the site within the current calendar year.*	

C18.2 Audit Requirements	Y/N
Retail-Owned Transport Delivery tanks data has been submitted to Fertilizer Canada within the current calendar year.	
Comments	

SUMMARY FOR SECTION C TO BE COMPLETED BY THE AUDITOR

SECTION C	Yes/No
All Mandatory Items Are Present	
Best Management Practices	/8

SUMMARY ~~SCORE~~ FOR SECTION C ~~– PART 1~~

TO BE COMPLETED BY THE AUDITOR

SECTION C	~~Items/Points~~	~~Pass Mark Items/Points~~	~~Actual Score~~
Mandatory Items	44	44	~~(must be 100% compliant on Mandatory Items)~~
Points Items	~~110 points~~	~~88 points~~	~~(must be 80% compliant on Point Items)~~

SUMMARY SCORE FOR SECTION C – PART 2

TO BE COMPLETED BY THE AUDIT

~~SECTION C~~	~~Items/Points~~	~~Pass Mark Items/Points~~	~~Actual Score~~
~~Mandatory Items~~	~~36~~	~~36~~	~~(must be 100% compliant on Mandatory Items)~~
~~Points Items~~	~~180 points~~	~~144 points~~	~~(must be 80% compliant on~~

					~~Point Items)~~

SECTION D	**SECTION D - TRAINING** This section contains the safety training requirements for an anhydrous ammonia operation.	**SECTION D – TRAINING**
D.1	**D.1 FACILITY GENERAL SAFETY RULES** The management of the facility has developed, issued and reviewed the facility general safety rules with all employees of the facility. During discussion and observation, it appears that these rules are known and enforced. *Compliance will be indicated through observation and discussion with the person responsible.* **D.1 Audit Requirements** | **Y/N** The management of the facility has developed, issued, and reviewed the facility general safety rules with all employees of the facility | At the time of discussion and observation, it appears that these rules are known and enforced | Comments	**D1 FACILITY GENERAL SAFETY RULES** The management of the facility has developed, issued and reviewed the facility general safety rules with all employees of the facility. During discussion and observation, it appears that these rules are enforced. *Compliance will be through observation and discussion with the person responsible.*
D.2	**D.2 SAFE OPERATING PROCEDURES TRAINING** Training has been provided to all employees on the operating procedures applicable to their job function. Training must consist of procedural and supervised “hands on” application of the procedures to verify comprehension. Training has been provided to all employees on the safe operating procedures for each of their jobs. *Compliance will be indicated through an examination of training records to indicate safe operating procedures training has been provided to all employees.*	**D2 SAFE OPERATING PROCEDURES TRAINING** Training has been provided to all employees on the operating procedures applicable to their job function. Training must consist of procedural and supervised “hands on” application of the procedures to verify comprehension. ~~**D2**~~ Training has been provided to all employees on the safe operating procedures for each of their jobs. *Compliance will be indicated through an examination of training records to indicate safe operating procedures training has been provided to all employees.*

	D.2 Audit Requirements — **Y/N** Training is consistent with procedural and supervised "hands on" application of the procedures to verify comprehension An examination of training records indicating safe operating procedures training has been provided to all employees Comments	
D.3	**D.3 TRANSPORTATION OF DANGEROUS GOODS TRAINING** All employees involved in the handling, offering for transport or transport of anhydrous ammonia have had training on the *Transportation of Dangerous Goods Act* and *Regulations*, specific to anhydrous ammonia, and have valid training certificates. This may include clerical staff involved in the handling, offering to transport and transporting administration process. Training is refreshed at a minimum of every three years as per TDG regulation. *Compliance will be indicated through an examination of training records and training certificates to indicate Transportation of Dangerous Goods training has been provided to all affected employees.* **D.3 Audit Requirements** — **Y/N** All employees involved in the handling, offering for transport or transport of anhydrous ammonia have a valid certificate for the Transportation of Dangerous Goods Act and Regulations Comments	**D3 TRANSPORTATION OF DANGEROUS GOODS TRAINING** ~~All employees involved in the handling, offering for transport or transport of anhydrous ammonia have been trained in the *Transportation of Dangerous Goods Act* and *Regulations*, specific to anhydrous ammonia, and have valid training certificates.~~ ~~**D3**~~ All employees involved in the handling, offering for transport or transport of anhydrous ammonia have had training on the *Transportation of Dangerous Goods Act* and *Regulations*. This may include clerical staff involved in the ~~transportation~~ administration process. Training is refreshed at ~~the required intervals.~~ *Compliance will be indicated through an examination of training records to indicate Transportation of Dangerous Goods training has been provided to all affected employees.*

D.4	**D.4 DRIVER CERTIFICATION** Employees who operate transport units have received the required driver licence certification in accordance with the applicable Provincial Highway Traffic Act or Transport Regulation.	**D4 DRIVER CERTIFICATION** Employees who operate transport units have received the required driver licence certification in accordance with the applicable Highway Traffic Act or Transport Regulation.
D.4.1	**D.4.1 Driver Licence:** Driver licensing in accordance with applicable Provincial regulations is mandatory. *Compliance will be indicated through an examination of driver licences to indicate that staff required to operate transport vehicles have a current and appropriate license as required by provincial authorities.* **D.4.1 Audit Requirements** — **Y/N** An examination of driver licenses to indicate the appropriate staff required to operate transport vehicles have a current appropriate licensing as required by Provincial authorities. — Y/N Comments	**D4.1** Driver ~~training,~~ licencing ~~and certification~~ in accordance with applicable ~~Federal and/or~~ Provincial regulations is mandatory. *Compliance will be indicated through an examination of ~~training records~~ to indicate ~~the appropriate~~ staff required to operate transport vehicles have ~~the~~ appropriate ~~training~~ as required by ~~regulatory~~ authorities~~.~~*
D.4.2	**D.4.2 Drivers Abstract:** Employers must keep driver's abstracts on file and review annually. *Compliance will be indicated by a letter from the current Owner / Operator or person responsible that this requirement has been met for the year.* **D.4.2 Audit Requirements** — **Y/N** A letter from the Owner / Operator / person responsible indicates that the employer has verified annually that driver abstracts are current. — Y/N Comments	**D4.2** Employers must keep driver's abstracts on file and review annually. *Compliance will be indicated by a letter from the current ~~owner~~ or person responsible that this requirement has been met for the year.*

D.5	**D.5 WHMIS TRAINING** All employees at the anhydrous ammonia operation have been trained on the Workplace Hazardous Materials Information System (WHMIS). WHMIS/training has been provided for all employees who work at the anhydrous ammonia operation as per Federal and Provincial regulations. *Compliance will be indicated through an examination of training records to indicate WHMIS training has been provided to all employees.* **D.5 Audit Requirements** — **Y/N** WHMIS training has been provided for all employees who work at the anhydrous ammonia operation Comments	**D5 WHMIS TRAINING** All employees at the anhydrous ammonia operation have been trained on the Workplace Hazardous Materials Information System (WHMIS). ~~**D5**~~ WHMIS/training has been provided for all employees who work at the anhydrous ammonia operation as per Federal and~~/or~~ Provincial regulations. *Compliance will be indicated through an examination of training records to indicate WHMIS training has been provided to all employees ~~and records show an annual review has been completed.~~*
D.6	**D.6 OCCUPATIONAL HEALTH AND SAFETY TRAINING PROGRAMS** The ammonia operation has developed and implemented an Occupational Health and Safety training program for all employees working with anhydrous ammonia including: D6.1 Isolation and lock-out procedures, safe work permit system for confined workspace entry, hot work (cutting and welding), and elevated work. D6.2 Information on the rights of employees to refuse unsafe work. D6.3 Responsibilities of management and employees under the appropriate labour legislation. *Compliance will be indicated through the presence of an Occupational Health and Safety program and an examination of training records to indicate Occupational Health and Safety training has been provided to all employees as required.* **D.6 Audit Requirements** — **Y/N**	**D6 OCCUPATIONAL HEALTH AND SAFETY TRAINING PROGRAMS** ~~**D6**~~ The ammonia operation has developed and implemented an Occupational Health and Safety training program for all employees working with anhydrous ammonia including: D6.1 Isolation and lock-out procedures, safe work permit system for confined workspace entry, hot work (cutting and welding), and elevated work. D6.2 Information on the rights of employees to refuse unsafe work. D6.3 Responsibilities of management and employees under the appropriate labour legislation. *Compliance will be indicated through an examination of training records to indicate Occupational Health and Safety safe work permits training has been provided to all employees as required.*

	The ammonia operation has developed and implemented an Occupational Health and Safety training program for all employees working with anhydrous ammonia including: • Isolation and lock-out procedures, safe work permit system for confined workspace entry, hot work (cutting and welding), and elevated work • information on the rights of employees to refuse unsafe work, and • responsibilities of management and employees under the appropriate labor legislation. Comments	
D.7	**D.7 EMERGENCY TRAINING** Training has been provided for appropriate personnel on:	**D7 EMERGENCY TRAINING** ~~**D7**~~ Training has been provided for appropriate personnel on:
D.7.1	**D.7.1 First Aid** *Compliance will be indicated through an examination of training records to indicate the appropriate number of staff, as required by provincial regulatory requirements, have been trained in first aid.* **D.7.1 Audit Requirements** — **Y/N** Examination of training records to indicate the appropriate number of staff have been trained in first aid as required by provincial regulatory authorities and that certification is current. Comments	D7.1 First Aid *Compliance will be indicated through an examination of training records to indicate the appropriate number of staff have been trained in first aid ~~as required by regulatory authorities.~~*
D.7.2	**D.7.2 Cardiopulmonary Resuscitation (CPR)** *Compliance will be indicated through an examination of training records to indicate that the appropriate number of staff at retail locations have been trained in CPR as required by regulatory authorities.*	D7.2 Cardiopulmonary Resuscitation (CPR) *Compliance will be indicated through an examination of training records to indicate the appropriate number of staff have been trained in CPR as required by regulatory authorities.*

	D.7.2 Audit Requirements — **Y/N** Examination of training records to indicate the appropriate number of staff have been trained in CPR as required by regulatory authorities and that certification is current. Comments	
D.7.3	**D.7.3 Fire Extinguisher Training** *Compliance will be indicated through an examination of training records to indicate the appropriate number of staff have been trained on the proper use of fire extinguishers as required by regulatory authorities.* **D.7.3 Audit Requirements** — **Y/N** Examination of training records to indicate the appropriate number of staff have been trained in fire extinguisher use as required by regulatory authorities and that certification is current. Comments	D7.3 Fire ~~e~~xtinguisher ~~t~~raining *Compliance will be indicated through an examination of training records to indicate the appropriate number of staff have been trained on the proper use of fire extinguishers as required by regulatory authorities.*
D.7.4	**D.7.4 Respiratory Protection** Respiratory protection training for all personnel required to wear a respirator including those handling ammonia day-to-day and emergency responders. *Compliance will be indicated through an examination of training records to indicate respiratory protection training has been provided to all affected staff.* **D.7.4 Audit Requirements** — **Y/N** Examination of training records to indicate the appropriate number of staff have completed respiratory protection training as required by regulatory authorities or manufacturer and that certification is current.	D7.4 Respiratory protection training for all personnel required to wear a respirator including those handling ammonia day-to-day and emergency responders. *Compliance will be indicated through an examination of training records to indicate respiratory protection training ~~(including fit check)~~ has been provided to all affected staff ~~annually.~~*

	Comments	
D.7.5	**D.7.5 Respirator Fit Testing Requirements** Respirator fit testing frequency is determined by CSA Z94.4 requirements or more frequently if required by the respirator protection manufacturer. As per CSA requirements, fit testing is required at least every 24 months. *Compliance will be indicated through an examination of training records to indicate that a respirator fit test was conducted within the last 24 months.* **D.7.5 Audit Requirements** — **Y/N** Training records document that all personnel required to wear a respirator have been fit tested and received respiratory protection training within the past 12 months. Comments	
D.8	**D.8 EMERGENCY RESPONSE TRAINING**	**D8 EMERGENCY RESPONSE TRAINING**
D.8.1	**D.8.1 Employee Emergency Response Training** All employees have been trained on the emergency response procedures for the site. *Compliance will be indicated through an examination of training records to indicate that all staff has been trained on the emergency response procedures.* **D.8.1 Audit Requirements** — **Y/N** An examination of training records indicate that all staff have been trained on the emergency response procedures. Comments	**D8.1** All employees have been trained on ~~what to do in an~~ emergency ~~situation.~~ *Compliance will be indicated through an examination of training records to indicate that all staff has been trained on the emergency response procedures.*
	D.8.2 Emergency Responder Training	**D8.2**

<table>
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<td></td>
<td>Employees who are involved in responding to emergencies at the anhydrous ammonia operation have received the appropriate training.

Compliance will be indicated through an examination of training records to indicate that all staff has been trained on the emergency response procedures appropriate for their role.

<table>
<tr><td>D.8.2 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>An examination of training records indicate that all staff involved in responding to emergencies have been trained in appropriate procedures.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>Employees who are involved in responding to emergencies at the anhydrous ammonia operation have received the appropriate training.

Compliance will be indicated through an examination of training records to indicate that all staff has been trained on the emergency response procedures appropriate for their role.</td>
</tr>
<tr>
<td>D.8.2</td>
<td>D.8.3 Transportation Emergency

Employees involved in the transportation of anhydrous ammonia have been trained in the proper procedures for their role in responding to a transportation emergency.

Compliance will be indicated by an examination of training records to verify that employees have been trained.

<table>
<tr><td>D.8.2 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>An examination of training records verifies that employees have been trained in the proper procedures for responding to a transportation emergency.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>D8.3
Employees involved in the transportation of anhydrous ammonia have been trained in the proper procedures for their role in responding to a transportation emergency.

Compliance will be indicated by an examination of training records to verify that employees have been trained.</td>
</tr>
<tr>
<td>D.9</td>
<td>D.9 SECURITY

All employees at the anhydrous ammonia operation have received training on security measures to prevent unauthorized access to anhydrous ammonia, and on how to respond to a security incident.

Compliance will be indicated through an examination of training records to verify that all staff have been trained on the security procedures.</td>
<td>D9 SECURITY

<s>D9</s> All employees at the anhydrous ammonia operation have received training on security measures to prevent unauthorized access to anhydrous ammonia, and how to respond to a security incident.</td>
</tr>
</table>

<table>
<tr>
<td></td>
<td>
<table>
<tr><th>D.9 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All employees at the anhydrous ammonia operation have received training on security measures to prevent unauthorized access to anhydrous ammonia and on security incidence response.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>Compliance will be indicated through an examination of training records to verify that all staff have been trained on the security procedures ~~appropriate to their role.~~</td>
</tr>
<tr>
<td>D.10</td>
<td>
D.10 CONTRACTOR SAFETY

All contractors providing services on or in close proximity to anhydrous ammonia equipment shall be made aware of the hazards associated with ammonia through training or orientation.

Compliance will be indicated through a signed letter and/or written verification from the current person responsible indicating all contractors have either received appropriate training or orientation or are directly supervised by a competent person with the appropriate training.
<table>
<tr><th>D.10 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>A signed letter and/or written verification from the current person responsible indicating all contractors providing services on or in close proximity to anhydrous ammonia equipment have either received appropriate training or orientation or are directly supervised by a competent person with appropriate training</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>
D10 CONTRACTOR SAFETY

~~D10~~ All contractors providing services on or in close proximity to anhydrous ammonia equipment shall be made aware of the hazards associated with ammonia.

Compliance will be indicated through a signed letter from the current person responsible indicating all contractors have either received appropriate training or are directly supervised by a competent person with the appropriate training.
</td>
</tr>
<tr>
<td>D.11</td>
<td>
D.11 END USER EDUCATION

End users transporting and using anhydrous ammonia have been instructed on the proper safety and emergency response procedures every three years at minimum.

Compliance will be indicated through inspection of documentation demonstrating end users transporting and using anhydrous ammonia have been instructed on the proper safety and emergency response procedures at least every three years.
</td>
<td>
D11 ~~CUSTOMER~~ EDUCATION

~~D11~~ ~~Customers~~ transporting and using anhydrous ammonia have been instructed on the proper safety and emergency response procedures~~. All customers must be instructed~~ every three years at minimum.

Compliance will be indicated through ~~a signed and dated letter from the current person responsible indicating that all customers are~~ instructed on the proper procedures.
</td>
</tr>
</table>

	D.11 Audit Requirements — **Y/N** Inspection of documentation that demonstrates end users have received safety and emergency response procedure training within 3 years. Comments	
	SUMMARY FOR SECTION D TO BE COMPLETED BY THE AUDITOR **SECTION D** — **YES/NO** **All Mandatory Items Are Present** **Meets Best Practices** — **0/0**	**SUMMARY ~~SCORE~~ FOR SECTION D** **TO BE COMPLETED BY THE AUDITOR** **SECTION D** — ~~**Items/Points**~~ — ~~**Pass Mark Items/Points**~~ — ~~**Actual Score**~~ **Mandatory Items** — ~~**11**~~ — ~~**11**~~ — ~~(must be 100% compliant on Mandatory Items)~~ ~~**Points Items**~~ — ~~**160 points**~~ — ~~**130 points**~~ — ~~(must be 80% compliant on Point Items)~~
SECTION E	**SECTION E - DOCUMENTATION** This section contains the documentation requirements for an anhydrous ammonia operation.	**SECTION E – DOCUMENTATION** This section contains the documentation requirements for an anhydrous ammonia operation.
E.1	**E.1 EMPLOYEE TRAINING RECORDS** The anhydrous ammonia operation has training records for all employees. Training records are available for all employees to show compliance with Section D. *Compliance will be indicated through examination of the training records for employees at the operation.* **E.1 Audit Requirements** — **Y/N** Training records are available for all employees	**E1 EMPLOYEE TRAINING RECORDS** The anhydrous ammonia operation has training records for all employees. ~~**E1 MINIMUM REQUIREMENTS**~~ Training records are available for all employees. *Compliance will be indicated through examination of the training records for employees at the operation.*

	Comments	
E.2	**E.2 CRITICAL SAFE OPERATING PROCEDURES** The anhydrous ammonia operation has written procedures for critical tasks at the operation. The anhydrous ammonia operation has written safe operating procedures (SOP): E2.1 Describing the correct process for safely and effectively performing all anhydrous ammonia transfer operations. E2.2 Describing (where applicable) the correct process for safely and effectively performing all confined workspace entry (i.e. internal tank inspections), lock-out, hot work and elevated work. E2.3 For the proper use and maintenance of personal protection equipment. *Compliance will be indicated through an examination of the written safe operating procedures.*	**E2 CRITICAL SAFE OPERATING PROCEDURES** The anhydrous ammonia operation has written procedures for critical tasks at the operation. ~~**E2 MINIMUM REQUIREMENTS**~~ The anhydrous ammonia operation has written safe operating procedures: E2.1 Describing the correct process for safely and effectively performing all anhydrous ammonia transfer operations. E2.2 Describing (where applicable) the correct process for safely and effectively performing all confined workspace entry, lock-out, hot work and elevated work. E2.3 For the proper use and maintenance of personal protection equipment. *Compliance will be indicated through an examination of the written safe operating procedures.*

E.2 Audit Requirements	**Y/N**
The anhydrous ammonia operation has written safe operating procedures describing the correct process for • safely and effectively performing all anhydrous ammonia transfer operations • safely and effectively performing, if applicable, all confined workspace entry (i.e. internal tank inspections), lock-out, hot work and elevated work.	
If any of the following work was performed by Ag-Retailer personnel, a written procedure is available: • confined space entry work • lock-out (energy isolation) work	

<table>
<tr>
<td></td>
<td>
<table>
<tr><td>• hot work
• elevated work</td><td></td></tr>
<tr><td>The anhydrous ammonia operation has written safe operating procedures for the proper use and maintenance of personal protection equipment</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td></td>
</tr>
<tr>
<td>E.3</td>
<td>E.3 MAINTENANCE RECORDS

The anhydrous ammonia operation has maintenance records indicating the completion of appropriate scheduled inspection and maintenance plans on anhydrous ammonia related equipment.</td>
<td>E3 MAINTENANCE RECORDS

The anhydrous ammonia operation has maintenance records indicating the completion of appropriate scheduled inspection and maintenance plans on anhydrous ammonia related equipment.

<strike>E3 MINIMUM REQUIREMENTS</strike></td>
</tr>
<tr>
<td>E.3.1</td>
<td>E.3.1 Annual Safety Inspection Records

Records are available for the annual safety inspection of all regulated vehicles transporting anhydrous ammonia.

Compliance will be verified through an examination of the maintenance records indicating that all vehicles transporting anhydrous ammonia at the operation have had a safety inspection within the last 12 months.

Recommended Best Practices: Recommended best practice is to have all vehicles transporting anhydrous ammonia pass an annual inspection as certified by the Commercial Vehicle Safety Alliance (CVSA).
<table>
<tr><th>E.3.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Records are available indicating that all regulated vehicles transporting anhydrous ammonia at the operation have had a safety inspection within the last 12 months (see Section C.7)</td><td></td></tr>
<tr><td>Meets Best Practices Requirements - All vehicles transporting anhydrous ammonia pass an annual</td><td></td></tr>
</table>
</td>
<td>E3.1

Records are available <strike>indicating an</strike> annual safety inspection of all vehicles transporting anhydrous ammonia.

Recommended best practice is to have all vehicles transporting anhydrous ammonia pass an annual inspection as certified by the Commercial Vehicle Safety Alliance (CVSA).

Compliance will be verified through an examination of the maintenance records indicating that all vehicles transporting anhydrous ammonia at the operation have had a safety inspection within the last 12 months.</td>
</tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><td>inspection as certified by the Commercial Vehicle Safety Alliance (CVSA).</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td></td></tr>
<tr><td>E.3.2</td><td>

E.3.2 Hydrostatic Pressure Test

Records are available for the annual hydrostatic pressure test of all hoses used in anhydrous ammonia transfers.

Compliance will be verified through an examination of the hose test records indicating that all hoses have had a pressure test within the last 12 months. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.

<table>
<tr><th>E3.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Records or a signed and dated letter from the person responsible for maintenance and testing stating the hoses have been tested within the last 12 months.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td><td>

E3.2

Records are available ~~indicating a documented~~ hydrostatic test ~~on~~ all hoses anhydrous ammonia hoses.

Compliance will be verified through an examination of the hose test records indicating that all hoses have had a pressure test within the last 12 months. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.

</td></tr>
<tr><td>E3.3</td><td>

E.3.3 Running Gear Maintenance

Records are available for the seasonal visual inspections and a 5-year physical inspection of all running gear on nurse wagons.

Compliance will be verified through an examination of the maintenance records indicating that all nurse wagons have had a seasonal visual safety inspection(s) within the last 12 months and a physical safety inspection completed in the last 60 months (as applicable).

<table>
<tr><th>E3.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Records indicating that all nurse wagon running gear has had a seasonal visual safety inspection(s) within the last 12 months (see Section C.17.2), and</td><td></td></tr>
<tr><td>A physical safety inspection completed in the last 60 months (see Section C.17.3)</td><td></td></tr>
</table>

</td><td>

E3.3

Records ~~indicate~~ seasonal visual inspections and a 5-year physical inspection of all running gear on nurse wagons.

Compliance will be verified through an examination of the maintenance records indicating that all nurse wagons have had a seasonal visual safety inspection(s) within the last 12 months and a physical safety inspection completed in the last 60 months (as applicable).

</td></tr>
</table>

<table>
<tr><td></td><td>Comments</td><td></td></tr>
<tr><td>E3.4</td><td>E.3.4 Pressure Vessel

Records are available for all pressure vessels for inspections, tests and certifications in accordance with regulatory requirements.

Compliance will be indicated through an examination of the maintenance records that indicate that all anhydrous ammonia vessels at the operation have been inspected and tested as defined by regulatory requirements. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.

<table><tr><th>E3.4 Audit Requirements</th><th>Y/N</th></tr><tr><td>Records or a signed and dated letter from the person responsible for maintenance and testing stating that all pressure vessels have been inspected and tested in compliance with the authority having jurisdiction.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>E3.4

Records are available ~~indicating~~ all pressure vessels ~~are~~ inspections, ~~tested~~ and ~~certified~~ in accordance with regulatory requirements.

Compliance will be indicated through an examination of the maintenance records that indicate that all anhydrous ammonia vessels at the operation have been inspected and tested as defined by regulatory requirements. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.</td></tr>
<tr><td>E.4</td><td>E.4 TRANSFERS OF PRODUCT TO CERTIFIED SITES

All facilities receiving anhydrous ammonia shall be Ammonia Code Certified.

Compliance will be indicated through examination of shipping records which shall clearly show the receiver’s Ammonia Code certification number.

<table><tr><th>E4 Audit Requirements</th><th>Y/N</th></tr><tr><td>An examination of shipping records which clearly show the receiver’s Ammonia Code certification number</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>E4 SHIPMENT OF PRODUCT TO COMPLIANT SITES

~~E4 MINIMUM REQUIREMENTS~~
All facilities receiving anhydrous ammonia shall be Ammonia Code ~~Compliant~~

Compliance will be indicated through examination of shipping records which shall clearly show the receiver’s Ammonia Code certification number.</td></tr>
</table>

	SUMMARY FOR SECTION E TO BE COMPLETED BY THE AUDITOR **SECTION E** — **Yes/No** **All Mandatory Items Are Present** **Meets Best Practices** — **/1**	**SUMMARY ~~SCORE~~ FOR SECTION E** **TO BE COMPLETED BY THE AUDITOR** **SECTION E** — ~~**Items/Points**~~ — ~~**Pass Mark Items/Points**~~ — ~~**Actual Score**~~ **Mandatory Items** — ~~**-4-**~~ — ~~**-4-**~~ — ~~(must be 100% compliant on Mandatory Items)~~ ~~**Points Items**~~ — ~~**140 points**~~ — ~~**120 points**~~ — ~~(must be 80% compliant on Point Items)~~
Section F	**SECTION F - EMPLOYEE KNOWLEDGE** This section contains the standards for employee knowledge of the required safe practices for handling anhydrous ammonia.	**SECTION F – EMPLOYEE KNOWLEDGE** This section contains the standards for employee knowledge of the required safe practices for handling anhydrous ammonia.
F.1	**F.1 CRITICAL SAFE OPERATING PROCEDURES** The employees at the anhydrous ammonia operation must be knowledgeable of the procedures for conducting critical tasks safely. *Compliance for Section F.1 will be indicated through conducting individual employee interviews (a minimum of 2 employees should be interviewed).*	**F1 CRITICAL SAFE OPERATING PROCEDURES** The employees at the anhydrous ammonia operation ~~are~~ knowledgeable of the procedures for conducting critical tasks safely. ~~**F1 Minimum Requirements**~~
F.1.1	**F.1.1 Employee Knowledge - Hazards** The employees at the anhydrous ammonia operation can explain the hazards associated with anhydrous ammonia. **F.1.1 Audit Requirements** — **Y/N** Employees are knowledgeable of the hazards associated with anhydrous ammonia Comments	**F.1.1** The employees at the anhydrous ammonia operation can explain the hazards associate with anhydrous ammonia.
F.1.2	**F.1.2 Employee Knowledge - Transfers**	**F1.2**

<table>
<tr><td></td><td>The employees at the anhydrous ammonia operation can explain the critical steps in completing anhydrous ammonia transfer operations.

<table><tr><th>F.1.2 Audit Requirements</th><th>Y/N</th></tr><tr><td>Employees can explain the critical steps in completing anhydrous ammonia transfer operations</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>The employees at the anhydrous ammonia operation can explain the critical steps in completing anhydrous ammonia transfer operations.</td></tr>
<tr><td>F.1.3</td><td>F.1.3 Employee Knowledge – Operating Limits and Emergency Procedures

The employees at the anhydrous ammonia operation can demonstrate an understanding of the critical operating limits and emergency procedures for equipment.

<table><tr><th>F.1.3 Audit Requirements</th><th>Y/N</th></tr><tr><td>Employees can explain their understanding of the critical operating limits for vessel filling and emergency procedures for equipment shut off</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>F1.3

The employees at the anhydrous ammonia operation can demonstrate an understanding of the critical operating limits and emergency procedures for equipment.</td></tr>
<tr><td>F.2</td><td>F.2 KNOWLEDGE OF TRANSPORTATION OF DANGEROUS GOODS ACT AND REGULATIONS

The employees at the anhydrous ammonia operation are knowledgeable about the Transportation of Dangerous Goods Act and Regulations.</td><td>F2 KNOWLEDGE OF TRANSPORTATION OF DANGEROUS GOODS ACT AND REGULATIONS

The employees at the anhydrous ammonia operation are knowledgeable about the Transportation of Dangerous Goods Act and Regulations.

<strike>F2 Minimum Requirements</strike></td></tr>
<tr><td>F.2.1</td><td>F.2.1 Knowledge of Transportation of Dangerous Goods (TDG) Act

Employees can explain the Transportation of Dangerous Goods placard classification system as it pertains to anhydrous ammonia.</td><td>F2.1

Employees can explain the Transportation of Dangerous Goods placard classification system as it pertains to anhydrous ammonia.</td></tr>
</table>

<table>
<tr><td></td><td>Compliance will be indicated through conducting individual employee interviews (a minimum of 2 employees should be interviewed).

<table><tr><th>F.2.1 Audit Requirements</th><th>Y/N</th></tr><tr><td>Employees can explain the Transportation of Dangerous Goods placard classification system as it pertains to Anhydrous Ammonia</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td></td></tr>
<tr><td>F.2.2</td><td>F.2.2 Knowledge of Transportation of Dangerous Goods - Responsibilities

Employees can explain their responsibilities under Transportation of Dangerous Goods Act.

Compliance will be indicated through conducting individual employee interviews (a minimum of 2 employees should be interviewed).

<table><tr><th>F.2.2 Audit Requirements</th><th>Y/N</th></tr><tr><td>Employees are aware of their responsibilities under the TDG Act</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>F2.2

Employees can explain <s>the hazards associated with anhydrous ammonia and how that relates to the information features on a</s> Transportation of Dangerous Goods <s>placard</s>.</td></tr>
<tr><td>F.2.3</td><td>F.2.3 Knowledge of Transportation of Dangerous Goods - Documentation

Employees can explain the documentation requirements as defined by the Transportation of Dangerous Goods Act and Regulations.

Compliance will be indicated through correct responses from a selection of employees (a minimum of two employees).

<table><tr><th>F.2.3 Audit Requirements</th><th>Y/N</th></tr><tr><td>Employees are capable of explaining the documentation requirements as defined by the</td><td></td></tr></table></td><td>F.2.3

Employees can explain the documentation requirements as defined by the Transportation of Dangerous Goods Act and Regulations.

Compliance will be indicated through correct responses from a selection of employees.</td></tr>
</table>

	Transportation of Dangerous Goods Act and Regulations Comments	
F.3	**F.3 KNOWLEDGE OF SITE EMERGENCY RESPONSE PLAN** Employees at the anhydrous ammonia operation are aware of the contents of the emergency response plan and their role within it. *Compliance for Section F.3 will be indicated through correct responses from a selection of employees (a minimum of two employees).*	**F3 KNOWLEDGE OF EMERGENCY RESPONSE PLAN** Employees at the anhydrous ammonia operation are aware of the contents of the emergency response plan and their role within it. ~~**F3 Minimum Requirements**~~
F.3.1	**F.3.1 Site Emergency Response Plan – Emergencies Addressed** Employees can explain the emergencies addressed in the site emergency response plan. **F.3.1 Audit Requirements** — **Y/N** Employees can explain the emergencies addressed in the site emergency response plan Comments	**F3.1** Employees can explain the emergencies addressed in the emergency response plan.
F.3.2	**F.3.2 Site Emergency Response Plan - Roles** Employees can explain their role (specific duties) in the event of various types of site emergencies. **F.3.2 Audit Requirements** — **Y/N** Employees can explain their role in the event of various types of emergencies Comments	**F3.2** Employees can explain their specific duties in the event of various types of emergencies.
F.3.3	**F.3.3 Emergency Response Plan - Activation of Plan** Employees can explain the procedures for activating the site emergency response plan.	**F3.3** Employees can explain the ~~proper~~ procedures for activating the plan.

<table>
<tr><td></td><td>
<table>
<tr><th>F.3.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Employees can explain the procedures for activating the site Emergency Response Plan</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td></td></tr>
<tr><td>F.3.4</td><td>
F.3.4 Site Emergency Response Plan – First Aid - Exposure

Employees at the anhydrous ammonia operation are knowledgeable of the correct procedures for treating skin or eye contact with anhydrous ammonia.

<table>
<tr><th>F.3.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Employees are knowledgeable of the correct procedures for treating skin or eye contact with anhydrous ammonia</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td>
F3.4

Employees at the anhydrous ammonia operation are knowledgeable of the correct procedures for treating skin or eye contact with anhydrous ammonia.
</td></tr>
<tr><td>F.3.5</td><td>
F.3.5 Site Emergency Response Plan - First Aid - Inhalation

Employees at the anhydrous ammonia operation are knowledgeable of the procedures for treating inhalation of anhydrous ammonia.

<table>
<tr><th>F.3.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Employees are knowledgeable of the procedures for treating inhalation of anhydrous ammonia</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td>
F3.5

Employees at the anhydrous ammonia operation are knowledgeable of the procedures for treating inhalation of anhydrous ammonia.

~~Compliance will be indicated through correct responses from a selection of employees from the anhydrous ammonia operation.~~
</td></tr>
<tr><td>F.4</td><td>
F.4 CARE OF EMERGENCY EQUIPMENT

Employees who are involved in the handling of Anhydrous Ammonia can explain the proper procedure for inspecting, maintaining and storing emergency equipment such as:

(a) Full-face respirators
(b) Anhydrous ammonia resistant suits, gloves, boots
</td><td>
CARE OF EMERGENCY EQUIPMENT

~~The designated employees operation are knowledgeable of the procedures for the proper care of emergency equipment.~~

~~F4 Minimum Requirements~~

~~The designated employees~~ can ~~demonstrate~~ the proper procedure for inspecting ~~and~~ maintaining equipment such as:
</td></tr>
</table>

<table>
<tr>
<td></td>
<td>
(c) Fire extinguishers
(d) Self-contained breathing apparatus
(e) Emergency water stations.

Compliance will be indicated through correct responses from a selection of employees (a minimum of two employees) from the anhydrous ammonia operation.
<table>
<tr><th>F.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Through interviews employees can explain maintenance, inspection and storage for full face respirators, anhydrous ammonia resistant suits, gloves boots, fire extinguishers, self-contained breathing apparatus, emergency water stations</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>
(a) Full-face respirators
(b) Anhydrous ammonia resistant suits, gloves, boots
(c) Fire extinguishers
(d) Self-contained breathing apparatus
(e) Emergency water stations.

Compliance will be indicated through correct responses from a selection of employees from the anhydrous ammonia operation.
</td>
</tr>
<tr>
<td>F.5</td>
<td>
F.5 KNOWLEDGE OF WHMIS

The employees at the anhydrous ammonia operation are knowledgeable of the Workplace Hazardous Materials Information System (WHMIS).

Utilizing information contained in WHMIS, employees at the anhydrous ammonia operation can identify the hazards of the product, interpret labels, and Safety Data Sheets.

Compliance will be indicated through correct responses from a selection of employees (a minimum of two employees) from the anhydrous ammonia operation.
<table>
<tr><th>F.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Utilizing information contained in WHMIS, employees can identify the hazards of the product, interpret labels, and Safety Data Sheets</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>
F5 KNOWLEDGE OF WHMIS

The employees at the anhydrous ammonia operation are knowledgeable of the Workplace Hazardous Materials Information System (WHMIS).

<s>F5 Minimum Requirements</s>

Utilizing information contained in WHMIS, employees at the anhydrous ammonia operation can identify the hazards of the product, interpret labels, and <s>(Material)</s> Safety Data Sheets.

Compliance will be indicated through correct responses from a selection of employees from the anhydrous ammonia operations.
</td>
</tr>
</table>

<table>
<tr>
<td>F.6</td>
<td>F.6 CRITICAL SECURITY PROCEDURES

The employees at the anhydrous ammonia operation are knowledgeable of critical security procedures.

Compliance for Section F.6 will be indicated through correct responses from a selection of employees (a minimum of two employees) from the anhydrous ammonia operation.</td>
<td>F6 CRITICAL SECURITY PROCEDURES

The employees at the anhydrous ammonia operation are knowledgeable of critical security procedures.

F6 MINIMUM REQUIREMENTS</td>
</tr>
<tr>
<td>F.6.1</td>
<td>F.6.1 Security Procedure – Suspicious Activity

Employees can explain the procedure for responding to suspicious activity
.
<table><tr><th>F.6 Audit Requirements</th><th>Y/N</th></tr><tr><td>Employees can explain the procedure for responding to suspicious activity.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td>
<td>F6.1

Employees can explain the procedure for responding to suspicious activity.</td>
</tr>
<tr>
<td>F.6.2</td>
<td>F.6.2 Security Procedure – Secure Operation

Employees can explain the procedure for locking and securing the anhydrous ammonia operation.

<table><tr><th>F.6.2 Audit Requirements</th><th>Y/N</th></tr><tr><td>Employees can explain the procedure for locking and securing the anhydrous ammonia operation.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td>
<td>F6.2

Employees can explain the procedure for locking and securing the anhydrous ammonia operation ~~and the equipment~~.

~~Compliance will be indicated through correct responses from a selection of employees from the anhydrous ammonia operation.~~</td>
</tr>
<tr>
<td>F.7</td>
<td>F.7 INSPECTION OF EQUIPMENT

The employees at the anhydrous ammonia operation are knowledgeable of the procedures and intervals for inspecting anhydrous ammonia equipment specific to their job requirements.

Compliance will be indicated through correct responses from a selection of employees (a minimum of two employees) from the anhydrous ammonia operation.</td>
<td>F7 ~~MAINTENANCE~~ OF EQUIPMENT

~~F7 Minimum Requirements~~
The employees at the anhydrous ammonia operation are knowledgeable of the procedures for ~~properly~~ inspecting ~~and maintaining~~ anhydrous ammonia equipment specific to their job requirements.

Compliance will be indicated through correct responses from a selection of employees from the anhydrous ammonia operation.</td>
</tr>
</table>

F.7 Audit Requirements	Y/N
Employees are knowledgeable of the procedures and intervals for inspecting anhydrous ammonia equipment specific to their job requirement	
Comments	

SUMMARY FOR SECTION F TO BE COMPLETED BY THE AUDITOR

SECTION F	Yes/No
All Mandatory Items Are Present	
Meets Best Practices	0/0

SUMMARY ~~SCORE~~ FOR SECTION F

TO BE COMPLETED BY THE AUDITOR

SECTION F	~~Items/Points~~	~~Pass Mark Items/Points~~	~~Actual Score~~
Mandatory Items	~~0~~	~~0~~	~~(must be 100% compliant on Mandatory Items)~~
~~Points Items~~	~~195 points~~	~~155 points~~	~~(must be 80% compliant on Point Items)~~

SECTION G

SECTION G – EMERGENCY RESPONSE

This section contains the requirements for emergency response planning required for an anhydrous ammonia operation.

SECTION G – EMERGENCY RESPONSE

This section contains the ~~standards~~ for emergency response planning required for an anhydrous ammonia operation.

G.1

G.1 WRITTEN EMERGENCY RESPONSE PLAN

The anhydrous ammonia operation has a written emergency response plan containing:

- An index, dated and with page numbers, and containing a list of plan holders and plan locations.
- Roles and Responsibilities for the key emergency response roles that are described in the emergency response plan including specific names and contact numbers.

G1 WRITTEN EMERGENCY RESPONSE PLAN

~~The anhydrous ammonia operation has a written emergency response plan.~~

~~**G1 Minimum Requirements**~~

The anhydrous ammonia operation has a written emergency response plan containing:

~~**G1.1**~~ An index, ~~be~~ dated, ~~have~~ page numbers and contain a list of plan holders.

~~**G1.2** An organizational chart.~~

- Telephone numbers of all emergency responders.
- Telephone numbers of outside resources.
- Telephone numbers of neighbouring businesses, residences and other affected occupancies.
- Grid map indicating the location of businesses, residences and other affected occupancies relative to the anhydrous ammonia operation.
- A site plan indicating emergency equipment locations.
- The list of events that trigger the emergency response plan.
- Annual risk assessment or review identifying significant risks.
- Emergency shut-off locations for electricity, gas, and ammonia.
- Management plan for contaminated run-off *water* resulting from an emergency *(See Protocol A3*).

Compliance will be indicated through examination of the completed emergency response plan to ensure it complies with the listed requirements.

G.1 Audit Requirements	**Y/N**
Written emergency response plan containing:	
• An index, be dated, have page numbers, and contain a list of plan holders and plan locations.	
• Roles and Responsibilities for the key emergency response roles that are described in the emergency response plan including specific names and contact numbers.	
• Telephone numbers of emergency responders	
• Telephone numbers of identified outside resources.	

~~**G1.3**~~ Responsibilities ~~of~~ the key roles ~~featured on the organizational chart.~~

~~**G1.4**~~ ~~The t~~elephone numbers of all emergency responders.

~~**G1.5**~~ Telephone numbers of outside resources.

~~**G1.6**~~ Telephone numbers of neighbouring businesses, residences and other affected occupancies.

~~**G1.7**~~ ~~If applicable, the operation must have an Emergency Response Assistance Plan (ERAP) registered with Transport Canada.~~

~~**G1.8**~~ Grid map indicating the location of businesses, residences and other affected occupancies relative to the anhydrous ammonia operation.

~~**G1.9**~~ A site plan indicating emergency equipment locations.

~~**G1.10**~~ ~~The l~~ist of events that trigger the emergency response plan.

~~**G1.11**~~ ~~Location of e~~mergency shut-off locations for electricity, gas, and ammonia.

~~**G1.12**~~ Management plan for contaminated run-off water resulting from an emergency (See Protocol A3).

Compliance will be indicated through examination of the completed emergency response plan to ensure it complies with the listed requirements.

~~G1.13~~ ~~If applicable, the operation must have an Environmental Emergency (E2) Plan submitted to Environment and Climate Change Canada as per the requirements of the Environmental Emergency Regulations.~~

	• Telephone numbers of neighbouring businesses, residences, and other affected occupancies.	
	• Grid map indicating the location of businesses, residences, and other affected occupancies relative to the anhydrous ammonia operation.	
	• A site plan indicating emergency equipment locations.	
	• List of events that trigger the emergency response plan.	
	• The risk assessment identifies significant risks and has been reviewed within the last twelve months	
	• Emergency shut-off locations for electricity, gas, and ammonia	
	• Management plan for contaminated run-off water resulting from an emergency (See Protocol A.3).	
	Comments	

G.2	**G.2 COMMUNICATION OF EMERGENCY RESPONSE PLAN** The contents of the emergency response plan have been reviewed annually with emergency responders and any other person involved in or affected by execution of the plan. There is documentation of contact with local emergency responders to discuss and review the updated emergency response plan within the last 12 months. *Compliance will be indicated by an appropriately dated and signed letter from the person responsible inviting emergency services to the site.*	**G2 COMMUNICATION OF EMERGENCY RESPONSE PLAN** The contents of the emergency response plan have been reviewed annually with emergency responders and any other person involved in or affected by execution of the plan. ~~**G2 Minimum Requirements**~~ There is documentation of contact with local emergency responders to discuss and review the updated emergency response plan within the last 12 months. *Compliance will be indicated by an appropriately dated and signed letter from the person responsible inviting emergency services to the site.*

G.2 Audit Requirements	**Y/N**
There is documentation of contact with local emergency responders to discuss and review the	

	updated emergency response plan within the last 12 months. ☐ Comments	
	G3 RISK ASSESSMENT The ammonia operation must prepare and annually review and update a risk assessment. The ammonia operation has conducted a risk assessment of the operation that identifies significant risks and has reviewed it within the last twelve months. *Compliance will be indicated by inspection of a copy of the risk assessment.* **G.2 Audit Requirements** — **Y/N** There is documentation of a risk assessment of the operation that identifies significant risks and that has been reviewed within the last 12 months. ☐ Comments	**G3 RISK ASSESSMENT** The ammonia operation must prepare and annually review a risk assessment. ~~**G3 Minimum Requirements**~~ The ammonia operation has conducted a risk assessment of the operation that identifies significant risks and has reviewed it within the last twelve months. *Compliance will be indicated by inspection of a copy of the risk assessment.*
G.4	**G.4 COPIES OF EMERGENCY RESPONSE PLAN** Copies of the updated emergency response plan for the anhydrous ammonia operation are kept at on-site and off-site locations.	**G4 COPIES OF EMERGENCY RESPONSE PLAN** Copies of the updated emergency response plan for the anhydrous ammonia operation are kept at secure on-site and off-site locations. ~~**G4 Minimum Requirements**~~
G.4.1	**G.4.1 Emergency Response Plan Location** A copy of the emergency response plan is kept at the anhydrous ammonia operation. *Compliance will be indicated if Emergency response plan is accessible on-site, in hardcopy format, to all personnel at the site.* **G.4.1 Audit Requirements** — **Y/N**	~~**G4.1**~~ A copy of the emergency response plan is kept at the anhydrous ammonia operation.

<table>
<tr><td></td><td>
<table>
<tr><td>A hard copy of the updated emergency response plan is kept on-site.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td></td></tr>
<tr><td>G.4.2</td><td>

G.4.2 Emergency Response Plan Location

A copy of the emergency response plan is kept at a secure off-site location.

Compliance will be indicated if the emergency response plan is available off-site, in either hardcopy or electronic format.

<table>
<tr><td>G.4.2 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>A copy of the emergency response plan is kept at an off-site location.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td><td>

~~**G4.2**~~

A copy of the emergency response plan is kept at a secure off-site location.

</td></tr>
<tr><td>G.4.3</td><td>

G.4.3 Emergency Response Plan Container

A current hard copy of the emergency response plan must be in a blue weather-proof container near the entrance to the ammonia operation.

Compliance will be indicated by the presence of a current hard copy of the emergency response plan in a blue weather-proof container near the entrance to the Site.

<table>
<tr><td>G.4.3 Audit Requirements</td><td>Y/N</td></tr>
<tr><td>A current copy of the emergency response plan is in a blue weather-proof container near the entrance to the ammonia operation site</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td><td>

~~**G4.3**~~

A copy of the emergency response plan must be in a blue weather-proof container near the entrance to the ammonia operation.

Compliance will be indicated ~~in two parts. First~~, a copy of the emergency response plan ~~located at the anhydrous ammonia operation will be examined. Second, indication of the location~~ of the ~~off-site plan is included~~ in the ~~Emergency Response Plan~~.

</td></tr>
<tr><td>G.5</td><td>

G.5 ANNUAL REVIEW AND UPDATE OF EMERGENCY RESPONSE PLAN

</td><td>

~~**G5**~~ **ANNUAL REVIEW AND UPDATE OF EMERGENCY RESPONSE PLAN**

~~**G5 Minimum Requirements**~~

</td></tr>
</table>

<table>
<tr>
<td></td>
<td>The emergency response plan for the anhydrous ammonia operation has been reviewed, had its contents verified and updated within the past 12 months.

Compliance will be indicated through examination of the emergency response plan to verify that the last review date has not exceeded 12 months.

<table>
<tr><th>G.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>The emergency response plan for the anhydrous ammonia operation has been reviewed and had its contents verified and updated within the past 12 months.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>The emergency response plan for the anhydrous ammonia operation has been reviewed, had its contents verified and updated within the past 12 months.

Compliance will be indicated through examination of the emergency response plan to verify that the last review date has not exceeded 12 months.</td>
</tr>
<tr>
<td>G.6</td>
<td>G.6 EMERGENCY CONTACTS LIST

A current list of emergency contact numbers for local emergency responders, operation management and employees has been prepared and is located at:

• All land line phones throughout the Site.

Compliance will be indicated through examination of the posted emergency response contact list at the operation.

• Each vehicle that transports anhydrous ammonia.

Compliance will be indicated through examination of the emergency response contact list in each anhydrous ammonia transport vehicle.

Within the last 12 months the emergency contacts phone lists have been verified and updated.

Compliance will be indicated by examination of emergency contact lists.

<table>
<tr><th>G.6 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>A list of emergency contact number for local emergency responders, operation management and employees has been prepared and posted at:</td><td></td></tr>
</table>
</td>
<td><s>G6</s> EMERGENCY CONTACT LIST

<s>G6 Minimum Requirements</s>
A list of emergency contact <s>number</s> for local emergency responders, operation management and employees has been prepared and <s>posted at the operation with</s>:

<s>G6.1 A phone list of critical contact numbers is posted at the operation in prominent location.</s>
Compliance will be indicated through examination of the posted emergency response contact list at the operation.

<s>G6.2 A phone list of critical contact numbers must be carried in each transport vehicle.</s>
Compliance will be indicated through examination of the emergency response contact list in each transport vehicle.

<s>G6.3</s> Within the last 12 months, emergency <s>response</s> phone lists <s>are</s> verified and updated <s>as required</s>.

Compliance will be indicated by examination of <s>checklists or records of verification exercise.</s></td>
</tr>
</table>

	• All land line phones throughout the Site. • Each vehicle that transports anhydrous ammonia Emergency contacts phone lists have been verified and updated within the past 12 months Comments	
G.7	**G.7 EMERGENCY RESPONSE DRILL** The anhydrous ammonia operation has conducted at least one simulation exercise of the emergency response plan annually.	**~~G7~~ EMERGENCY RESPONSE DRILL** The anhydrous ammonia operation has conducted at least one simulation exercise of the emergency response plan annually. **~~G7 Minimum Requirements~~**
G.7.1	**G.7.1 Emergency Response Drill Exercise** An exercise has been conducted on the emergency response plan in order to enhance the plan, familiarize participants with their duties and identify any gaps in the plan within the past 12 months. *Compliance will be indicated through examination of records of the emergency response exercises for the operation to determine that an emergency response drill has been done.* **G.7.1 Audit Requirements** — **Y/N** An exercise has been conducted on the emergency response plan within the past 12 months Comments	An exercise has been conducted on the emergency response plan in order to enhance the plan, familiarize participants with their duties and identify any gaps in the plan within the past 12 months. *Compliance will be indicated through examination of records of the emergency response exercises for the operation to determine that an emergency response drill has been done.*
G.7.2	**G.7.2 Emergency Response Simulation** If applicable, a full-scale Emergency Response simulation exercise has been conducted within the past five (5) years. *Compliance will be indicated through examination of records of the emergency response exercises for the operation to determine that an emergency response drill / simulation has been done.*	

	G.7.2 Audit Requirements — **Y/N** If applicable, a full-scale simulation exercise has been conducted within the past five (5) years Comments	
G.8	**G.8 CONTAMINATED RUN-OFF WATER** The anhydrous ammonia operation has developed a plan for the containment of contaminated run-off water produced from emergency response activities. Contaminated run-off water plan must include the following: • An analysis of the topography of the operation to identify run-off direction • Identification of potential at-risk water sources within one (1) kilometer of the operation. • Identification of measures to be taken in advance of an incident (e.g. construction of retention berm) • Identification of measures to be taken at the time of an incident (e.g. plugging of culverts with sandbags) *Compliance will be indicated by a verification of elements in the emergency plan.* **G.8 Audit Requirements** — **Y/N** Contaminated run-off water plan must include the following: • An analysis of the topography of the operation to identify run-off direction • Identification of potential at-risk water sources within one (1) kilometer of the operation.	~~**G8**~~ **CONTAMINATED RUN-OFF WATER** The anhydrous ammonia operation has developed a plan for the containment of contaminated run-off water produced from emergency response activities. ~~**G8 Minimum Requirements**~~ Contaminated run-off plan ~~needs to consist of~~ the following ~~elements~~: ~~G8.1~~ An analysis of the topography of the operation to identify run-off direction ~~G8.2~~ Identification of potential at-risk water sources within ~~1~~ kilometer of the operation. ~~G8.3~~ Identification of measures to be taken in advance of an incident (e.g. construction of retention berm) ~~G8.4~~ ~~M~~easures to be taken at the time of an incident (i.e. plugging of culverts with ~~sand bags~~) *Compliance will be indicated by a ~~visual inspection of~~ the emergency plan.*

	• Identification of measures to be taken in advance of an incident (e.g. construction of retention berm). • Identification of measures to be taken at the time of an incident (e.g. plugging of culverts with sandbags). Comments	
G.9	**G.9 INCIDENT REPORTING** The anhydrous ammonia operation has an incident reporting system.	**~~G9~~ INCIDENT REPORTING** The anhydrous ammonia operation has an incident reporting system. **~~G9 Minimum Requirements~~**
G.9.1	**G.9.1 Incident Reporting Program** The operation has an active incident reporting program including a written procedure and record keeping for: • Internal notifications • External notifications *Compliance will be indicated by an examination of the written procedure and records of incidents.* Recommended Best Practices: Best practice includes reporting of near-misses. **G.9.1 Audit Requirements** — **Y/N** There is an active incident reporting program including a written procedure and record keeping for: • Internal notifications • External notifications Meets Best Practices Requirements: Near-misses are reported as part of Incident Reporting	**~~G9.1~~** The operation has an active incident reporting program including a written procedure and record keeping. *Compliance will be indicated by an examination of the written procedure and records of incidents.*

	Comments:	
		~~**G9.2**~~ ~~The incident reporting program shall include near misses.~~ ~~*Compliance will be indicated by a review of the program and by examination of records of incidents*~~
G.10	**ENVIRONMENTAL EMERGENCY REQUIREMENTS** All Retail Anhydrous Ammonia sites with fixed storage facilities in quantities of 4.5 tonnes or more must have a process to comply with the Environmental Emergency (E2) Regulations of the Canadian Environmental Protection Act (CEPA 1999).	
G.10.1	**Environmental Emergency (E2) Plan Protocol** E2 plans and procedures will be written and current with documentation maintained for a minimum of 7 years. Plan preparations, registrations and schedule submissions must be completed by required deadlines. Annual E2 Plan practice is required (could be a table-top exercise). A full E2 Plan practice simulation exercise is required every 5 years. *Compliance will be indicated by an examination of written procedures, and on-site documentation.*	

G.10.1 Audit Requirements	**Y/N**
There is a written and current E2 Plan for the site	
Site Managers are aware of Aug 24, 2020 deadline for E2 plan registration	
Site Managers can demonstrate that E2 Plan schedules have been completed	
Site Managers can demonstrate that an annual E2 Plan Practice has been completed and that at least once every 5 years a full simulation exercise is implemented	
Documentation of the E2 plan and procedures is maintained for a minimum of 7 years	

	Comments:	
G10.2	**Emergency Response Assistance Plan (ERAP)** All Anhydrous Ammonia Sites/Locations that have Delivery Units must apply for and have a valid Transport Canada Approved Emergency Response Assistance Plan (ERAP). All Anhydrous Ammonia Sites/Locations that have Nurse Wagons that exceed 10,000 litres in capacity must apply for and have a valid Transport Canada Approved Emergency Response Assistance Plan (ERAP). (Note: ERAP number will be the same for locations with Delivery Units and Nurse Wagons.) *Compliance will be indicated by visual examination of the site/location ERAP Number documentation. Auditor will record site ERAP number.* **G.10.2 Audit Requirements** — **Y/N** There is a Transport Canada approved Emergency Response Assistance Plan for the site/location and associated ERAP number. Comments:	
	SUMMARY FOR SECTION G TO BE COMPLETED BY THE AUDITOR **SECTION G** — **Yes/No** **All Mandatory Items Are Present** **Meets Best Practices** — **/1**	**SUMMARY ~~SCORE~~ FOR SECTION G** **TO BE COMPLETED BY THE AUDITOR** **SECTION G** — **~~Items/Points~~** — **~~Pass Mark Items/Points~~** — **~~Actual Score~~** **Mandatory Items** — **~~18~~** — **~~18~~** — ~~(must be 100% compliant on Mandatory Items)~~ **~~Points Items~~** — **~~150 points~~** — **~~120 points~~** — ~~(must be 80% compliant on Point Items)~~
SECTION H	**SECTION H - RAILCARS AND EQUIPMENT** This section contains the standards for managing risks associated with anhydrous ammonia railcars.	**SECTION H – RAILCARS AND EQUIPMENT** This section contains the standards for managing risks associated with anhydrous ammonia railcars.

<table>
<tr>
<td>H.1</td>
<td>

H.1 RAILCAR DESIGN AND CONSTRUCTION

All anhydrous ammonia transport railcars are constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.

H1 Railcar:

Railcars have been designed and constructed accordance with the applicable Canadian Codes and Standards.

Compliance will be indicated through a visual inspection of the nameplate or markings.

<table>
<tr><th>H.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>A visual inspection of the nameplate or markings indicates compliance by having a CRN number.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td>
<td>

H1 RAILCAR DESIGN AND CONSTRUCTION

All anhydrous ammonia transport railcars are constructed, operated and maintained in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.

H1 ~~Minimum Requirements~~

Railcars have been designed, constructed~~, operated and maintained~~ in accordance with the applicable Canadian Codes and Standards.

Compliance will be indicated through a visual inspection of the nameplate or markings.

</td>
</tr>
<tr>
<td>H.2</td>
<td>

H.2 RAILCAR LOADING AND UNLOADING OPERATIONS

Railcar loading and unloading operations comply with applicable Federal and/or Provincial Regulations.

</td>
<td>

H.2 RAILCAR LOADING AND UNLOADING OPERATIONS

Railcar loading and unloading operations comply with applicable Federal and/or Provincial Regulations.

~~H2 Minimum Requirements~~

</td>
</tr>
<tr>
<td>H.2.1</td>
<td>

H.2.1 Railcar Loading / Unloading:

Railcar loading and unloading must have emergency shut-off capability located at both ends of the railcar (at ground level) and the filling/ unloading point. Emergency shut-off capability may be provided by excess flow valves, check valves, control valves or emergency shut-off valves.

The activating lever on cable-operated emergency shut-off systems must be colour-coded blue.

Compliance will be indicated through a visual inspection of the equipment.

</td>
<td>

H2.1

Railcar loading and unloading must have emergency shut-off capability located at both the railcar ~~end~~ and the filling/ unloading point. Emergency shut-off capability may be provided by excess flow valves, check valves, control valves or emergency shut-off valves.

Best practice is to use ~~a “snappy joe”~~ or equivalent at the railcar to stop the flow from the railcar in the event of an emergency.

Compliance will be indicated through a visual inspection of the equipment.

</td>
</tr>
</table>

<table>
<tr>
<td></td>
<td>Recommended Best Practices: Best practice is to use an emergency shut-off valve (ESV) or equivalent at the railcar to stop the flow from the railcar in the event of an emergency.
<table>
<tr><th>H.2.1 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Railcar loading and unloading piping must have emergency shut-off capability located at:
• both ends of the railcar (at ground level); and
  • the filling/ unloading point
  • the activating lever on emergency shut-off systems</td><td></td></tr>
<tr><td>Meets Best Practices Requirements - An emergency shut-off valve (ESV) or equivalent is used at the railcar to stop the flow from the railcar in the event of an emergency</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td></td>
</tr>
<tr>
<td>H.2.2</td>
<td>H.2.2 Hose Valves:
All valves are suitable for anhydrous ammonia service.

Compliance will be indicated through a signed and dated requirements list/ letter from the current Owner / Operator or person responsible indicating all valves at the anhydrous ammonia operation are suitable for anhydrous ammonia service.
<table>
<tr><th>H.2.2 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Signed and dated requirements list/ letter indicating all valves are suitable for anhydrous ammonia service.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>H2.2
All valves are suitable for anhydrous ammonia service.

Compliance will be indicated through a ~~visual inspection of the valves.~~</td>
</tr>
<tr>
<td>H.2.3</td>
<td>H.2.3 Hose-end Valve:
Hose-end valves have been constructed and/or guarded to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard.</td>
<td>H2.3
Hose-end valves have been constructed to prevent accidental opening. This may include the configuration of the valve opening mechanism or the installation of a guard ~~to prevent accidental opening.~~</td>
</tr>
</table>

<table>
<tr><td></td><td>Compliance will be indicated through a visual inspection of hose-end valves.

<table><tr><th>H.2.3 Audit Requirements</th><th>Y/N</th></tr><tr><td>Hose-end valves are constructed/guarded to prevent accidental opening.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>Compliance will be indicated through a visual inspection of hose-end valves.</td></tr>
<tr><td>H.2.4</td><td>H.2.4 Fall Protection System
Fall protection system must be provided for personnel working at the top of the railcar.

Compliance will be indicated through a visual inspection of fall protection system and training records.

<table><tr><th>H.2.4 Audit Requirements</th><th>Y/N</th></tr><tr><td>Fall protection system is provided for personnel working at the top of the railcar.</td><td></td></tr><tr><td colspan="2">Comments</td></tr></table></td><td>H2.4
Fall protection must be provided for personnel working at the top of the railcar.

Compliance will be indicated through a visual inspection of fall ~~arrest or fall~~ protection ~~equipment or a written operating procedure.~~</td></tr>
<tr><td>H.3</td><td>H.3 RAILCAR VESSEL HOSES
All hoses used with railcars have been installed and tested in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.</td><td>H3 RAILCAR VESSEL HOSES
All hoses used with railcars have been installed and tested in accordance with Federal and/or Provincial Boiler and Pressure Vessel Regulations.

~~H3 Minimum Requirements~~</td></tr>
<tr><td>H.3.1</td><td>H.3.1 Hose
All hoses used with railcars are clearly marked as approved for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses to ensure proper markings indicating approval for anhydrous ammonia service.

<table><tr><th>H.3.1 Audit Requirements</th><th>Y/N</th></tr></table></td><td>H3.1
All hoses used with railcars are clearly marked as approved for anhydrous ammonia service.

Compliance will be indicated through a visual inspection of all hoses to ensure proper markings indicating approval for anhydrous ammonia service.</td></tr>
</table>

	All hoses used with railcars are clearly marked as approved for anhydrous ammonia service. Comments	
H.3.2	**H.3.2 Hose Maximum Allowable Working Pressure** All hoses are marked with their Maximum Allowable Working Pressure (MAWP). *Compliance will be indicated through a visual inspection of all hoses to ensure proper markings indicating the Maximum Allowable Working Pressure.* **H.3.2 Audit Requirements** — **Y/N** All hoses have proper markings indicating Maximum Allowable Working Pressure (MAWP). Comments	**H3.2** All hoses are marked with their Maximum Allowable Working Pressure (MAWP). *Compliance will be indicated through a visual inspection of all hoses to ensure proper markings indicating the Maximum Allowable Working Pressure.*
H.3.3	**H.3.3 Hose Expiry** All hoses have not exceeded their manufacturer's "remove from service" date. *Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure the manufacturer's labelled "remove from service" date on hoses has not been exceeded.* **H.3.2 Audit Requirements** — **Y/N** All hoses have not exceeded their manufacturers "remove from service" date Comments	**H3.3** All hoses have not exceeded their manufacturer's "remove from service" date. *Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure the manufacturer's labelled "remove from service" date on hoses has not been exceeded.*
H.3.4	**H.3.4 Hose Couplings** All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service. *Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type.*	**H3.4** All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service. *Compliance will be indicated through a visual inspection of all hoses on the vessel to ensure all hose couplings are either of the bolt-on or crimp-on type.*

<table>
<tr><td></td><td>
<table>
<tr><th>H.3.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses have been equipped with crimp-on or bolt-on hose couplings designed for anhydrous ammonia service.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td></td></tr>
<tr><td>H.3.5</td><td>

H.3.5 Hose Testing

All hoses have been annually inspected, tested and marked in accordance with CGA Standards.

Compliance will be indicated in two parts. First, all hoses on the vessel will be visually inspected to determine if they have been marked in accordance with CGA standards. Second, the hose testing records will be reviewed to ensure hose testing has been documented and conducted at the appropriate frequency. When documentation is kept elsewhere, a signed and dated letter from the person responsible for maintenance and testing will be sufficient.

<table>
<tr><th>H.3.5 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>All hoses have been annually inspected, tested and marked in accordance with the CGA standards</td><td></td></tr>
<tr><td>Signed and dated hose testing records/ letter indicate hose testing has been conducted at the appropriate frequency.</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

</td><td>

H3.5

All hoses have been annually inspected, tested and marked in accordance with ~~the CSA s~~tandards.

Compliance will be indicated in two parts. First, all hoses on the vessel will be visually inspected to determine if they have been marked in accordance with CSA standards. Second, the hose testing records will be reviewed to ensure hose testing has been documented and conducted at the appropriate frequency.

</td></tr>
<tr><td>H.4</td><td>

H.4TRANSFER PUMPS OR COMPRESSORS

The transfer pump(s) or compressor(s) used with the railcar(s) have been designed and approved for use with anhydrous ammonia.

</td><td>

H4 TRANSFER PUMPS OR COMPRESSORS

The transfer pump or compressor used with the railcar ~~has~~ been designed and approved for use with anhydrous ammonia.

~~**H4 Minimum Requirements**~~

</td></tr>
<tr><td>H.4.1</td><td>

H.4.1 Transfer Pump

The transfer pump or compressor must be approved by the manufacturer for anhydrous ammonia service.

</td><td>

H4.1

The transfer pump or compressor must be approved by the manufacturer for anhydrous ammonia service.

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Compliance will be indicated through documentation.

H.4.1 Audit Requirements	Y/N
Documentation shows that the transfer pump(s) and compressor(s) are approved by the manufacturer for anhydrous ammonia service.	
Comments	

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Compliance will be indicated through a ~~visual inspection of the pump or compressor to ensure it is approved for anhydrous ammonia service.~~

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<tr>
<td>H.4.2</td>
<td>

H.4.2 Transfer Pump Guards

The transfer pump or compressor used with the railcar has been equipped with guards to prevent contact with drive pulleys and belts.

Compliance will be indicated through a visual inspection of all transfer pumps or compressors to ensure they are equipped with guards to prevent contact with drive pulleys and belts.

H.4.2 Audit Requirements	Y/N
The transfer pump or compressor used with the railcar is equipped with guards to prevent contact with drive pulleys and belts.	
Comments	

</td>
<td>

H4.2

The transfer pump or compressor used with the railcar has been equipped with guards to prevent contact with drive pulleys and belts.

Compliance will be indicated through a visual inspection of all transfer pumps or compressors to ensure they are equipped with guards to prevent contact with drive pulleys and belts.

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<tr>
<td>H.4.3</td>
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H.4.3 TRANSFER PUMP OR COMPRESSOR MOUNTS

The transfer pump or compressor must be securely mounted on a non-combustible base.

Compliance will be indicated through a visual inspection of the transfer pump or compressor mount to ensure it is constructed of non-combustible materials.

H.4.3 Audit Requirements	Y/N
The transfer pump(s) or compressor(s) are securely mounted on a non-combustible base.	

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<td>

H4.3

The transfer pump or compressor must be securely mounted on a non-combustible base.

Compliance will be indicated through a visual inspection of the transfer pump mount to ensure it is ~~secured~~.

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</table>

	Comments	
H.5	**H.5 TDG RAILCAR LABELS AND MARKINGS** Railcars have the required TDG labels and markings as designated by regulatory requirements.	**H5 RAILCAR LABELS AND MARKINGS** Railcars have the required labels and markings as designated by regulatory requirements. ~~**H5 Minimum Requirements**~~
H.5.1	**H.5.1 Railcar Marking** The railcar must be clearly marked with "ANHYDROUS AMMONIA" in a contrasting colour. Signage must appear on two long sides of the railcar. **H.5.1 Audit Requirements** — **Y/N** The railcar is clearly marked with "ANHYDROUS AMMONIA" in a contrasting colour. — Signage appears on two long sides of the railcar — Comments	**H5.1** The railcar must be clearly marked with "ANHYDROUS AMMONIA" in contrasting colour. Signage must appear on two sides of the railcar.
H.5.2	**H.5.2 Railcar Marking Size** The railcar must be clearly marked with the words "INHALATION HAZARD" on the two long sides of the railcar in a contrasting colour and according to TDG regulations. **H.5.2 Audit Requirements** — **Y/N** The railcar is clearly marked with the words "INHALATION HAZARD" on the two long sides of the railcar in a contrasting colour. — Comments	**H5.2** The railcar must be clearly marked with the words "INHALATION HAZARD" on the two long sides of the railcar in a contrasting colour. ~~Letters must be a minimum of 4 inches in height.~~
H.5.3	**H.5.3 TDG Placards** Transportation of Dangerous Goods placards must be mounted on all four sides of the railcars as required by the TDG regulation.	**H5.3** Transportation of Dangerous Goods placards must be mounted on all four sides of the ~~railcar~~.

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<table>
<tr><th>H.5.3 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Current TDG placards are mounted on all four sides of the railcar</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td><td></td></tr>
<tr><td>H.5.4</td><td>

H.5.4 Pressure test and Retest

Pressure test dates are on the railcar.

Compliance will be indicated through a visual inspection of labels and markings on the vessel to ensure it meets requirements.

<table>
<tr><th>H.5.4 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Pressure test dates are on the railcar</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>

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H5.4

Pressure test ~~and retest~~ dates are on the railcar.

Compliance will be indicated through a visual inspection of ~~signage~~ on the vessel to ensure ~~signage~~ meets requirements.

</td></tr>
<tr><td>H.6</td><td>

H.6 PERSONAL PROTECTIVE EQUIPMENT

The anhydrous ammonia railcar transfer operation is equipped with the required personal protective equipment.

Operators handling, transferring and or repairing equipment that has potential for release that could cause injury from anhydrous ammonia are required to wear PPE as specified in Section B7. Examples of instances where PPE is required to be worn:

- While connecting and disconnecting hoses for transfer (Note: when transfer operations are being completed (i.e. pumping is taking place) the operator can remove PPE when in a safe area).
- While bleeding equipment for transfer and after transfer operations are completed.
- While personnel are performing maintenance, until all anhydrous ammonia has been evacuated from the equipment that is being maintained.

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H6 PERSONAL PROTECTIVE EQUIPMENT

The anhydrous ammonia railcar transfer operation is equipped with the required personal protective equipment.

~~**H6 Minimum Requirements**~~

~~Each employee working at an anhydrous ammonia railcar transfer operation must have the following:~~

~~H6.1 Full-face cartridge style respirator complete with extra cartridges~~

~~H6.2 One-or two- piece anhydrous ammonia resistant suit.~~

~~H6.3 Gauntlet style anhydrous ammonia resistant gloves.~~

~~H6.4 CSA approved safety booth with a minimum six inch upper.~~

~~H6.5 Individual water bottle filled with clean fresh water.~~

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<td>Compliance will be indicated through a visual inspection of safety equipment to ensure proper type ~~of~~ and quantity for personnel at the operation.
<table>
<tr><th>H.6 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>Required PPE as specified in Section B7</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
</td>
<td>Compliance will be indicated through a visual inspection of safety equipment to ensure proper type of quantity for personnel at the operation.</td>
</tr>
<tr>
<td>H.7</td>
<td>H.7 EMERGENCY EQUIPMENT

The anhydrous ammonia railcar transfer operation is equipped with the required emergency equipment that is accessible and identifiable by all personnel.

In addition to all personal protective equipment specified in Section B.7, the following additional equipment is required:

H7.1 Two canister type anhydrous ammonia full-face respirators complete with spare canisters/cartridges.
H7.2 If required by provincial regulations, two Self-Contained Breathing Apparatuses (SCBA).
H7.3 Two one- or two-piece anhydrous ammonia resistant suits (protected from the weather).
H7.4 First Aid kit of a size appropriate for the number of employees at the operation.
H7.5 At minimum, a 5 lb ABC fire extinguisher (one located near each anhydrous ammonia transfer point).
H7.6 Two water supplies are required for emergency requirements. Water supplies may be either a safety shower or a minimum of two 200-gallon water troughs filled with clean, fresh water and labelled with a red cross to designate it as emergency response water. Troughs must be located within 10 metres of the anhydrous ammonia transfer points. Water troughs must be located opposite to each other considering prevailing wind direction. Water</td>
<td>H7 EMERGENCY EQUIPMENT

The anhydrous ammonia railcar transfer operation is equipped with the required emergency equipment.

<s>H7 Minimum Requirements</s>
In addition to all personal protective equipment, the following additional equipment is required:

H7.1 Two canister type anhydrous ammonia full-face respirators complete with spare canisters/cartridges.
H7.2 If required by provincial regulations, two Self-Contained Breathing Apparatuses (SCBA).
H7.3 Two one- or two-piece anhydrous ammonia resistant suits (protected from the weather).
H7.4 First Aid kit of a size appropriate for the number of employees at the operation.
H7.5 At minimum, a 5 lb ABC fire extinguisher (one located near each anhydrous ammonia transfer point).
H7.6 Two water supplies are required for emergency requirements. Water supplies may be either a safety shower or a minimum of two 200 gallon water troughs filled with clean, fresh water and labelled with a red cross to designate it as emergency response water. Troughs must be located within 10 metres of the anhydrous ammonia transfer points. Water troughs must be located opposite to each</td>
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must be heated when transfer operations are occurring at sub-zero Celsius temperatures.

H7.7 The transfer operation has emergency eyewash capability at the water troughs.

H7.8 A wind indicator must be located at the anhydrous ammonia transfer operation in order to determine wind direction for emergency response purposes.

Compliance will be indicated through a visual inspection of all required emergency response equipment.
<table>
<tr><th>H.7 Audit Requirements</th><th>Y/N</th></tr>
<tr><td>In addition to all personal protective equipment specified in Section B.7, the following additional equipment is required:</td><td></td></tr>
<tr><td>• Two canisters type respirators or SCBA if required by provincial regulations</td><td></td></tr>
<tr><td>• Resistant suits</td><td></td></tr>
<tr><td>• First Aid kit</td><td></td></tr>
<tr><td>• Fire extinguisher</td><td></td></tr>
<tr><td>• Two water supplies</td><td></td></tr>
<tr><td>• Emergency eyewash capability</td><td></td></tr>
<tr><td>The equipment is accessible and identifiable by all personnel</td><td></td></tr>
<tr><td colspan="2">Comments</td></tr>
</table>
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<td>
other considering prevailing wind direction. Water ~~troughs~~ must be heated ~~to prevent freezing in the colder months of spring and fall.~~

H7.7 The transfer operation has emergency eyewash capability at the water troughs.

H7.8 ~~(a)~~ A wind indicator must be located at the anhydrous ammonia transfer operation in order to determine wind direction for emergency response purposes.

Compliance will be indicated through a visual inspection of all required emergency response equipment.
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<tr>
<td>H.8</td>
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H.8 RAILCAR SECURITY

All anhydrous ammonia railcars must comply with the requirements of the anhydrous ammonia railcar security standard.
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<td>
H8 RAILCAR SECURITY

All anhydrous ammonia railcars must comply with the requirements of the anhydrous ammonia railcar security standard.

~~H8 Minimum Requirements~~
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H.8.1	**H.8.1 Railcar Seals** Railcars must be sealed while in transit, both to and from the destination, using a steel cable type seal. *Compliance will be indicated through a visual inspection of devices used for securing the railcar.* **H.8.1 Audit Requirements** | **Y/N** Railcars are sealed while in transit, both to and from the destination, using a steel cable type seal | Comments	**H8.1** ~~Railway cars~~ must be sealed while in transit, both to and from the destination, using a steel cable type seal. *Compliance will be indicated through a visual inspection of devices used for securing the railcar.*
H.8.2	**H.8.2 Pre-release Inspection** Pre-release inspection is to be completed prior to shipping, and a receiving inspection must be conducted on receipt of the rail car. *Compliance will be indicated through a visual inspection of completed pre-release and receiving inspection forms.* **H.8.2 Audit Requirements** | **Y/N** Pre-release inspection has been completed prior to shipping, and receiving inspection has been conducted in receipt of the rail car | Comments	**H8.2** Pre-release inspection is to be completed prior to shipping, and a receiving inspection must be conducted on receipt of the rail car. *Compliance will be indicated through a visual inspection of completed pre-release inspection forms*
	SUMMARY FOR SECTION H TO BE COMPLETED BY THE AUDITOR **SECTION H** | **Yes/No** **All Mandatory Items Are Present** | **Meets Best Practices** | **/1**	**SUMMARY ~~SCORE~~ FOR SECTION H** **TO BE COMPLETED BY THE AUDITOR** **SECTION H** | **~~Items/Points~~** | **~~Pass Mark Items/Points~~** | **~~Actual Score~~** **Mandatory Items** | **~~30~~** | **~~30~~** | ~~(must be 100% compliant on Mandatory Items)~~

		~~Points Items~~	~~20 points~~	~~16 points~~	~~(must be 80% compliant on Point Items)~~
SECTION I	**SECTION I - INSURANCE** This section contains the insurance requirements for an anhydrous ammonia handling operation.	**SECTION I – INSURANCE** This section contains the insurance requirements for an anhydrous ammonia handling operation.			
I.1	**I.1 INSURANCE** The ammonia operation has documentation of insurance coverage. The facility has documentation that gives evidence of current policies of insurance covering the following areas of risk exposure: 1. Environmental impairment liability (EIL) in the minimum amount of $1 million covering third party bodily injury and property damage and off-premises clean up expenses with $1 million policy aggregate for all occurrences; and $1 million covering on-premises clean up with $1 million policy aggregate for all occurrences. 2. Owned automobile liability (applicable to any and all vehicles that are owned or leased or operated by the facility in connection with the facility's business) covering bodily injury or property damage to third party interests in the minimum amount of $5 million per loss occurrence. 3. Non-owned automobile liability in the minimum amount of $5 million per loss occurrence. 4. Comprehensive General Liability (CGL) in the minimum amount of $5 million per loss occurrence. **Note:** a) Any endorsement or other policy wording that directly or indirectly selects fertilizers as specifically excluded from coverage, or that selects fertilizers for diminished coverage, is NOT acceptable. b) No deductibles more than $25,000 are permitted.	**I1 INSURANCE** The ammonia operation has documentation of insurance coverage. ~~**I1 Minimum Requirements**~~ The facility has documentation that gives evidence of current policies of insurance covering the following areas of risk exposure: 1. Environmental impairment liability (EIL) in the minimum amount of $1 million covering third party bodily injury and property damage and off-premises clean up expenses with $1 million policy aggregate for all occurrences; and $1 million covering on-premises clean up with $1 million policy aggregate for all occurrences. 2. Owned automobile liability (applicable to any and all vehicles that are owned, or leased or operated by the facility in connection with the facility's business) covering bodily injury or property damage to third party interests in the minimum amount of $5 million per loss occurrence. 3. Non-owned automobile liability in the minimum amount of $5 million per loss occurrence. 4. Comprehensive General Liability (CGL) in the minimum amount of $5 million per loss occurrence. **Note:** a) Any endorsement or other policy wording that directly or indirectly selects fertilizers as specifically excluded from coverage, or that selects fertilizers for diminished coverage, is NOT acceptable.			

Compliance will be indicated through examination of the confirmation of coverage form.*

I.1 Audit Requirements	Y/N
An examination of the confirmation of coverage form indicates all required insurance coverage is: • Within the current policy period • All limits and deductibles meet the requirements as specified on the form	
Comments	

b) No deductibles more than $25,000 are permitted.

Compliance will be indicated through examination of the confirmation of coverage form.*

***Note: A copy of the Insurance confirmation form can be found at the back of this book.**

***NOTE: A COPY OF THE INSURANCE CONFIRMATION FORM CAN BE FOUND AT THE BACK OF THIS BOOK.**

SUMMARY FOR SECTION I TO BE COMPLETED BY THE AUDITOR

SECTION I	Yes/No
All Mandatory Items Are Present	
Meets Best Practices	0/0

SUMMARY ~~SCORE~~ FOR SECTION I

TO BE COMPLETED BY THE AUDITOR

SECTION I	~~Items/Points~~	~~Pass Mark Items/Points~~	~~Actual Score~~
Mandatory Items	~~1~~	~~1~~	~~(must be 100% compliant on Mandatory Items)~~
~~Points Items~~	~~0 points~~	~~0 points~~	