

Revisions to VT AST Rules

Anna Bourakovsky
Hazardous Materials Program Manager
Waste Management & Prevention Division
Department of Environmental Conservation
Vermont Agency of Natural Resources

Key Revisions

- New Definitions
- New requirements for NEW systems
- Phased-in requirements for EXISTING systems
- Technical corrections, clarifications of requirements, reorganization of installation/inspection standards
- Upgrades to Inspection Checklists
- New checklist for “New Systems” (installed after Rules go into effect)
- New “Yellow Tag” Provision - **Major Revision**

New Definitions

- AST is now Aboveground Storage Tank **System**
- “SKID TANK” - what does and does not qualify as AST
- “EXISTING TANK” means tank installed **before** revisions
- “NEW TANK” means tank installed **after** revisions
- “RED TAG”- added formal definition
- “YELLOW TAG” - added formal definition
- “RESIDENTIAL” definition
- Bulk Storage Facility and Bulk Storage Tank - revised

Changes to Installation Standards

- Differentiate between standards applicable to ALL TANKS and those applicable to NEW INSTALLATIONS
- ALL TANKS: Fill and Vent Pipes must be made of metallic materials
- NEW INSTALLATIONS: Piping and Fuel Lines: any piping in contact with earthen material or concrete must be coated or sleeved to prevent crushing and corrosion

Phased-in Standards for Existing Tanks

By July 1, 2030:

- Tank Foundations must be concrete, 4 inches deep, with a footprint that exceeds by 10% (2017 Rules)
- Fill and Vent Pipes must be constructed in compliance with NFPA Part 31, Sec 8.2.1.1 (Sched 40 steel or brass)
- Piping in contact with earthen materials and/or concrete must be coated and sleeved to prevent corrosion and crushing
- Tank Legs must be 14 inches or less in length (unless written exemption given by Agency)

Changes to Inspection Standards

- New Red Tag requirement for ALL TANKS: all unused ports must be closed/plugged
- Inspection checklist must be provided to tank owner and state database within 5 business days (changed from 2)
- Routine inspections for NEW INSTALLATIONS are more stringent than for existing tanks
- New Yellow Tag Provision (more on topic later)
- Considering changing the inspection frequency from 3 to 5 years (more on topic later)

Existing vs. New Install Red Tag List

<u>Requirement</u>	<u>EXISTING</u>	<u>NEW</u>
Stable Foundation	x	x
Concrete Foundation		x
Fill and Vent Lines Requirements	x	x
Piping and Fuel Lines - Corrosion Protection	x	x
Piping and Fuel Lines - Crushing Protection		x
Overfill Vent Alarm	x	x
Shut-off Valve		x
Tank Legs		x
Rust on Tank and Legs, Pitting, Bulging, etc.	x	x
Unused Openings Closed/Plugged	x	x
Fuel Gauge Device		x
Outdoor ASTs- protection from ice/snow damage		x
For Manifolded Tanks - each tank is compliant	x	x

For all New Installations

- NEW INSTALLATIONS **must** be installed in compliance with **all** installation standards
- If a tank is **not** installed in compliance with **all** standards = RED TAG
- Inspection checklist modified to reflect this (example to follow)

Yellow Tags for Non-Compliance

- Applicable to EXISTING SYSTEMS for the following:
 - Lack of overfill alarm (outdoor tanks)
 - Buried fuel lines not coated/sleeved to prevent corrosion
 - Fill and vent line diameter and material
 - Moderate rust on tank or tank legs (NO active leaking observed)
- NOT applicable to noncompliant foundation, lack of overfill alarm (indoor tanks), presence of unused ports that are not plugged, and excessive rust/pitting, cracks in legs, and observed leaking/dripping.

More on Yellow Tags

- Only Applicable to RESIDENTIAL ASTs
- Must be documented and reported just like a RED TAG; also requires photo documentation of non-compliance that results in yellow-tag (retain but do not submit photos to ANR)
- Physical YELLOW (“CONDITIONAL FILL”) tag must be attached to tank and fill port (just like a red tag)
- CONDITIONAL FILL - limited to 100 gallons per delivery at reduced fill rate
- ALL Yellow Tags issued during the heating season expire on May 1. Expired Yellow Tag= RED TAG! Cannot be renewed
- Yellow Tags not required - MAY be used in lieu of RED TAGS. You can always be more conservative and red tag for all non-compliance.

Routine/New Customer – Existing Tanks

Aboveground Storage Tank (AST) Routine/New Customer Inspection Checklist

FOR TANKS INSTALLED BEFORE JULY 1, 2024

Approved for use by the Agency of Natural Resources on 03/06/2023

Aboveground storage tank (AST) inspections are required by the Aboveground Storage Tank Rules, (effective 01/01/2023). Tank inspections are required to be conducted in accordance with Section 9-305 of the Rules. This checklist is to be completed by the person inspecting the tank.

Inspection Completed by: _____ Company: _____

Tank Owner Info:

Name:	Address:
City/Town:	Phone/email:

Type of Inspection: Routine (once every three years) ☐ New Customer ☐

Tank Location: Indoor ☐ Outdoor ☐ Location Description: _____

Year of Tank Installation: _____ check here if install year unknown ☐

Number of tanks in tank system: One ☐ Two or more ☐ (If 2+, each tank must be compliant with questions below)

Tank Compliance Items (NA = Not Applicable)	YES COMPLIANT	NO RED	NO YELLOW
Is the tank on a stable foundation? (i.e., the tank is freestanding, no evidence of leaning or tilting, no evidence of subsidence) (1)	<input type="checkbox"/>	<input type="checkbox"/>	NA
Are buried fuel line(s) and buried tank piping coated or sleeved to protect against corrosion? Check here to indicate fuel lines and piping are NOT buried <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the tank equipped with a functional overfill vent alarm/whistle? Is the vent pipe within 12 feet of the fill pipe and visible from the fill pipe? (3)			
For Indoor Tank	<input type="checkbox"/>	<input type="checkbox"/>	NA
For Outdoor Tank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the fill and vent pipe diameter a minimum 1 1/4 inches and made of metal? (NOTE: For manifolded tank systems, each tank must either have a separate fill and vent pipe or have a separate fill but manifolded vent pipe to be compliant.) (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all unused tank openings plugged/closed?	<input type="checkbox"/>	<input type="checkbox"/>	NA
Is tank free of the following deficiencies? (If NO, then check all items that apply) (5)			
Dents or bulges visible in tank <input type="checkbox"/> Moderate pitting on tank <input type="checkbox"/>			
Moderate rust on legs <input type="checkbox"/> Moderate rust on tank <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visible evidence of leak at the fill or vent pipe (top of tank) <input type="checkbox"/>			
For double walled tanks, the interstitial space leak indicator showing presence of leak <input type="checkbox"/>			
Is tank free of the following deficiencies? (If NO, then check all items that apply) (5)			
Cracks in tank legs or tank <input type="checkbox"/> Excessive rust on tank surface or tank legs <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Excessive Pitting on tank <input type="checkbox"/> Tank is actively leaking, dripping or weeping <input type="checkbox"/>			

STOP: If ANY answers to above questions are "NO" and "RED tag" the inspector shall affix a "Do Not Fill" (RED) tag to the tank. If ANY answers to above questions are "NO" and only "YELLOW tag" is indicated, the inspector may affix a "Conditional Fill" (YELLOW) tag to the tank. Applying a YELLOW tag to a tank where any of the above inspection items have a RED tag selection is PROHIBITED.

(turn over for certification statement)

Additional Inspection Items- Must be brought to Compliance by July 1, 2030	YES	NO
Is the tank installed on a concrete pad at least 4 inches thick and a footprint exceeding dimensions of tank by at least 10%?	<input type="checkbox"/>	<input type="checkbox"/>
Are any piping or fuel lines in direct contact with earthen materials or concrete? If yes, are the piping and lines coated and sleeved to protect from corrosion and damage? (2)	<input type="checkbox"/>	<input type="checkbox"/>
Is the fill piping made of schedule 40 steel or brass? Are fill and vent pipes fitted with appropriate caps?	<input type="checkbox"/>	<input type="checkbox"/>
For outdoor tanks only: is tank protected from hazards (falling ice and snow from roof)? (Check NA only if the tank is located inside or outside but on gable end of a structure) (6) NA <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all tank legs no longer than 14 inches in length? (8)	<input type="checkbox"/>	<input type="checkbox"/>
Other tank system notes:		

*The number at the end of each question refers to the tank diagram on page 3 of this form

ALL inspections resulting in a RED tag or YELLOW tag must be reported to the Agency within 5 days using the following link: https://anrweb.vt.gov/DEC/ERT/Non_Compliant_AST.aspx

CERTIFICATION STATEMENT

I, _____ as the inspector of this AST do certify that the
(Print name and company)

tank installed at _____
(Property address)

was inspected on _____
(Date)

Check one:

- ☐ This tank system was found to be compliant with AST Rules.
- ☐ This tank system is noncompliant with AST Rules and has been Red Tagged.
- ☐ This tank system is noncompliant with AST Rules and has been Yellow Tagged; photo documentation has been collected of noncompliant items and has been filed with the inspection checklist.

(Signature of certified tank inspector)

(Date)

RECOMMENDED REPAIRS/ UPGRADES

- | | |
|--|---|
| Repair or replace foundation <input type="checkbox"/> | Replace fill and/or vent line(s) <input type="checkbox"/> |
| Replace unprotected oil lines with sleeved and coated oil lines <input type="checkbox"/> | Replace tank or tank legs <input type="checkbox"/> |
| Install alarm and/or move vent pipe to approved location <input type="checkbox"/> | Other: _____ |

The tank inspector is required to provide a copy of the completed checklist to the tank owner within five business days of the date of inspection. A copy of the completed checklist and any photo documentation shall also be retained by the tank inspector for three years and shall be provided to the Agency of Natural Resources upon request.

Routine/New Customer – New Tanks (Post 2024)



Aboveground Storage Tank (AST) Routine/New Customer Inspection Checklist FOR TANKS INSTALLED AFTER XXXXX, 2024

Approved for use by the Agency of Natural Resources on XXXXX

Aboveground storage tank (AST) inspections are required by the Aboveground Storage Tank Rules (effective XXXXXX). Tank inspections are required to be conducted in accordance with Section 9-305 of the Rules. This checklist is to be completed by the person inspecting the tank.

Inspection Completed by: _____ Company: _____

Tank Owner Info:

Name:	Address:
City/Town:	Phone/email:

Type of Inspection: Routine (once every three years) ☐ New Customer ☐
Tank Location: Indoor ☐ Outdoor ☐ Location Description: _____

Date of Tank Install: _____ (Date of Installation Must be Visibly Identified on Tank)

Tank Compliance Items	NA	YES	NO
Is the tank installed on a concrete pad at least 4 inches thick and a footprint exceeding dimensions of tank by at least 10%? (1) <i>Check NA only if an alternative foundation has been approved by the Agency in writing. Provide Date of Approval.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are piping and fuel lines that are in direct contact with earthen materials or concrete, coated and sleeved to protect against corrosion and damage? (2) <i>Check NA only if pipes and fuel lines are not in direct contact with earthen material or concrete.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the vent line equipped with an overfill vent alarm that is within 12 feet of the fill pipe and visible from the fill pipe? (3)		<input type="checkbox"/>	<input type="checkbox"/>
Is the fill and vent line diameter a minimum 1 1/4 inches and is the fill piping made of metal materials permitted by NFPA 31? Are fill and vent pipes fitted with appropriate caps? (4)		<input type="checkbox"/>	<input type="checkbox"/>
Is the entirety of tank surface and legs free of any cracks, significant corrosion, pitting, rust, spores, dents and bulges? Is tank and all tank fittings lacking evidence of leaks, drips, or other signs of a actual or suspected release? (5)		<input type="checkbox"/>	<input type="checkbox"/>
Does the tank have a shut-off valve within 12 inches of the AST fuel outlet? OR If tank draws fuel from the top of tank, is the shutoff valve installed before the fuel filter? (6)		<input type="checkbox"/>	<input type="checkbox"/>
Are all unused openings plugged/closed?		<input type="checkbox"/>	<input type="checkbox"/>
Are all tank legs no longer than 14 inches in length? (8) <i>Check NA only if longer legs were approved by the Agency in writing. Provide Date of Approval.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For tanks with Double Wall Protection: is the interstitial leak monitoring not in alarm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the tank have an operational fuel level gauge? (7)		<input type="checkbox"/>	<input type="checkbox"/>
For outdoor tanks only: is the tank protected from hazards (falling ice and snow from roof)? (6)		<input type="checkbox"/>	<input type="checkbox"/>

Continue on Page 2

Tank Compliance Items	NA	YES	NO
For indoor tanks only: is tank located on the lowest floor of the structure? <i>Check NA only if an alternative location has been approved by Agency in writing. Provide Date of Approval.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If there are multiple tanks, does each tank either have a separate fill and vent pipe or have a separate fill but manifolded vent pipe? <i>Check NA only if does not apply.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The number at the end of each question refers to the tank diagram on page 3 of this form.

STOP! If any responses to the above questions are "NO", the tank is not in compliance with the Vermont AST Rules and must be **Red Tagged**.

ALL inspections resulting in a RED tag must be reported to the Agency within 5 days using the following link: https://anrweb.vt.gov/DEC/ERT/Non_Compliant_AST.aspx

CERTIFICATION STATEMENT

I, _____ as the inspector of
(Print name and company)

this AST do certify that the tank located at _____
(Property address)

was inspected on: _____ and was found to be ☐ In Compliance with standards specified in 2024 VT AST rules.
(Date) ☐ Not in Compliance

(Signature of certified tank inspector) (Date)

The tank inspector is required to provide a copy of this completed checklist to the tank owner within five business days of the date of inspection. A copy of the completed checklist shall also be retained by the tank inspector for three years and shall be presented to the Agency of Natural Resources upon request.

NEW INSTALL and FIRST FILL



Aboveground Storage Tank (AST)

New Tank System Installation/First Fill Inspection Checklist

Approved for use by the Agency of Natural Resources on XXXXX

Aboveground storage tank (AST) inspections are required by the Aboveground Storage Tank Rules (effective XXXXXX). Tank inspections are required to be conducted in accordance with Section 9-305 of the Rules. This checklist is to be completed by the person inspecting the tank.

Inspection Completed by: _____ Company: _____

Tank Owner Info:

Name:	Address:
City/Town:	Phone/email:

Type of Tank 12 GA Steel Single Wall ☐ 12 GA Steel Double Wall ☐
Fiberglass Double Wall ☐ Fiberglass Double Wall ☐
Double-wall tanks with Polyethylene or other plastic polymer inner wall and metallic outer wall ☐
Other Type: _____

Tank Location: ☐ Indoor ☐ Outdoor

Date of Tank Install: _____ (Date of Installation Must be Visibly Identified on Tank)

COMPLETE AFTER TANK INSTALLATION BUT BEFORE FIRST FILL: (The number at the end of each question refers to the tank diagram on page 2 of this checklist)	NA	YES	NO
Is the tank installed on a concrete pad at least 4 inches thick and a footprint exceeding dimensions of tank by at least 10%? (1) <i>Check NA only if an alternative foundation has been approved by the Agency in writing. Provide Date of Approval</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are piping and fuel lines that are in direct contact with earthen materials or concrete, coated and sleeved to protect against corrosion and damage? (2) <i>Check NA only if pipes and fuel lines are not in direct contact with earthen material or concrete.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the vent line equipped with an overfill vent alarm that is within 12 feet of the fill pipe and visible from the fill pipe? (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the fill and vent line diameter a minimum 1 1/4 inches and is the fill piping made of metal materials permitted by NFPA 31? Are fill and vent pipes fitted with appropriate caps? (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the entirety of tank surface and legs free of any cracks, significant corrosion, pitting, rust, spores, dents and bulges? (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the tank have a shut-off valve within 12 inches of the AST fuel outlet? OR if tank draws fuel from the top of tank, is the shutoff valve installed before the fuel filter? (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all unused openings plugged/closed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all tank legs no longer than 14 inches in length? (8) <i>Check NA only if longer legs were approved by the Agency in writing. Provide Date of Approval</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the tank have an operational fuel level gauge? (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continue on Page 2

	NA	YES	NO
For tanks with Double Wall Protection: is the tank equipped with a functional interstitial leak indicator?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For outdoor tanks: is the tank protected from hazards (falling ice and snow from roof)? (6) <i>Leave response blank for indoor tank.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For indoor tanks- is tank located on the lowest floor of the structure? <i>Check NA only if the tank is NOT located inside a structure OR if an alternative location has been approved by Agency in writing. Provide Date of Approval</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If there are multiple tanks, does each tank either have a separate fill and vent pipe or have a separate fill but manifolded vent pipe? <i>Check NA only if does not apply.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STOP! If any responses to the above questions are "NO", the tank has not been installed in compliance with the Vermont AST Rules and cannot be filled. Unless the out-of-compliance issues can be addressed immediately, the tank must be Red Tagged.

COMPLETE AFTER FIRST FILL FOR NEW INSTALLATIONS ONLY:	YES	NO
Is the system free of drips, leaks, or other evidence of a release?	<input type="checkbox"/>	<input type="checkbox"/>
Did the vent alarm function during the delivery?	<input type="checkbox"/>	<input type="checkbox"/>

If any responses to the above questions are "NO", the tank has not been installed in compliance with the Vermont AST Rules and must be Red Tagged unless the out-of-compliance issues can be addressed immediately.

CERTIFICATION STATEMENT

I, _____, as the inspector of
(Print name and company)

this AST do certify that the new installation located at _____
(Property address)

was inspected on: _____ and was found to be ☐ In Compliance with standards specified in 2024 VT AST rules.
(Date) ☐ Not in Compliance

(Signature of certified tank inspector)

(Date)

The tank inspector is required to provide a copy of this completed checklist to the tank owner within five business days of the date of inspection. A copy of the completed checklist shall also be retained by the tank inspector for three years and shall be presented to the Agency of Natural Resources upon request.

Clarifications

- AST design standards DO NOT apply to Bulk Storage Tanks/Facilities
- AST inspection standards DO NOT apply to ASTs storing used oil
- Skid Tanks that are mobile or semi-mobile ARE NOT ASTs and not subject to Rules

Still Under Consideration

- Frequency of inspections - currently every 3 years but considering 5-year intervals (based on age of tank, location).
- Filling a Yellow-Tagged Tank - must be done at reduced fuel delivery rate to reduce risk of tank failure/spill - what rate is reasonable?

QUESTIONS?

Anna Bourakovsky

802-477-2981

anna.bourakovsky@vermont.gov