



Other Regulated Substance Requirements for Aboveground Storage Tanks

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Aboveground storage tanks (ASTs) storing liquids other than petroleum, hazardous substances, or asphalt cement are considered **other regulated substance** ASTs if the product has the potential to pollute the waters of the state. Examples include food-based products for human or animal consumption.

Other regulated substance ASTs must be in compliance with specific tank requirements outlined in Minn. R. ch. 7151. If site capacity for ASTs is greater than one million gallons, this rule does not apply and the owner or operator must apply for a permit from Minnesota Pollution Control Agency (MPCA).

Registration

The MPCA does not require the registration of other regulated substance ASTs. Petroleum and hazardous substance ASTs must be registered (Minn. Stat. § 116.46, subd. 6).

Exemptions

- corrosion protection and corrosion protection monitoring
- substance transfer areas
- overfill protection
- leak detection
- internal inspections for field-erected ASTs
- soil or ground water sampling during removal for possible contamination

Stainless steel ASTs

Stainless steel ASTs (for example, milk tanks) containing other regulated substances are excluded from Minn. R. ch. 7151.

Labeling

ASTs containing other regulated substances must be clearly labeled indicating the type of substance stored and the tank's capacity. If there is more than one tank, each tank must be labeled with a unique tank number.

Tank piping used for loading or unloading must be labeled so that the person performing the product transfer can identify which tank line is connected to which tank.

If a person is not on site 24 hours a day, a sign must be posted with the name, address, and telephone number of the facility owner or operator, or a local emergency response contact. The sign must be posted so that it can be seen outside any containment area.

Secondary containment

Other regulated substance ASTs need 100 percent containment area volume of the largest tank in the containment area. An additional 10 percent capacity is required for ASTs exposed to precipitation.

ASTs installed on or after November 2, 1998, need secondary containment constructed of:

- compacted clay (12 inches thick with a permeability of 1×10^{-7} cm./sec. and has a cover material to prevent drying and erosion) that is designed and certified by a registered professional engineer
- concrete
- a synthetic membrane
- a geosynthetic clay liner
- the outer shell of a double-walled tank
- the lower bottom of a double-bottomed tank
- fabricated steel
- fiberglass

Tanks installed prior to November 2, 1998, were required to have a dike (could be made of soil) preventing release to surface water by November 1, 1998. By November 1, 2003, the containment area had to meet a minimum permeability standard based upon the product type being stored, distance from surface water, and depth to groundwater. For questions about these requirements, see the "Permeability Testing Guidance for Secondary Containment Areas" fact sheet.

Monitoring

For other regulated substance ASTs, someone must be present to visually monitor loading and unloading of product and be able to shut off product transfer before an overflow occurs.

A visual inspection for tank releases must be conducted at least every 72 hours if the containment area does not meet the standards for tanks installed on or after November 2, 1998. If the containment area meets the standards for ASTs installed after this date, the inspection must be conducted at least weekly.

If the tank is double-walled, the inspection must be conducted at least monthly.

On a monthly basis, a visual inspection for both new and existing tanks is required. This inspection must include a walk through of the site to identify cracks in the secondary containment area. Visual examination of the exterior surfaces of tanks, piping, valves, pumps, and other equipment for cracks, corrosion, releases, and maintenance deficiencies must also be conducted. The monthly inspection must also identify poor maintenance, operating practices, or malfunctioning equipment.

Annual equipment checks to maintain leak detection or monitoring and warning equipment must be done. This includes function and calibration checks in accordance with manufacturer's guidance.

American Petroleum Institute (API) external inspections of field-erected ASTs were required by November 2, 2003, or five years after the initial construction date, whichever is later.

Maintenance

Owners and operators must minimize rust on the tank exterior and must dispose of water drawn from the bottom of the tank in accordance with any state and federal regulations.

The secondary containment area must be kept free of cracks, open seams, open drains, siphons, and vegetation other than grass. Grass is used to reduce erosion.

Precipitation must be removed as often as possible to maintain proper containment area volume. If precipitation exists in the containment area, the tank volume must be reduced to maintain the 100 percent capacity of the largest tank in the containment area.

Stormwater that collects in the containment area must be discharged according to state and federal regulations.

Safeguard systems must be installed and maintained according to the manufacturer's schedules and standards.

Record keeping

For the life of the tank

Owners or operators of other regulated substance ASTs must keep for the life of the tank all tank system design records including maintenance and repair documentation, third-party certifications, and as-built drawings.

All containment area evaluations for soil permeability must be kept for the life of the tank. These evaluations should include soil classification, soil description, sample logs, tables for individual permeability tests, and the hydraulic conductivity of the soil.

Records for external inspections of field-erected tanks must be retained for the life of the tank system.

For three years

All service check and equipment calibration records must be kept for three years. All periodic monitoring (72-hour, weekly and monthly) records must be kept for three years. Documentation for monitoring must include the name of the person conducting the monitoring, the method used, the date of the monitoring, and the monitoring results. The owner or operator must keep records indicating that the AST was taken out of service in compliance with regulations. These records must be kept for three years.

Discharges to a secondary containment area

An owner or operator of another regulated substance AST must immediately investigate a suspected release to a secondary containment area.

The owner or operator must assess the secondary containment area for damage where product release occurred and make any necessary repairs.

The owner or operator must notify the Minnesota Duty Officer immediately of discharges to the secondary containment area or of other releases. They can be reached at 800-422-0798 or 651-649-5451.

Out-of-service requirements

When another regulated substance AST is no longer used, it must be taken out of service or removed.

To take the tank system out of service, the tank owner or operator must:

- Remove all substances from the AST, connected piping, and appurtenances.
- Secure the AST to prevent unauthorized entrance or tampering.
- Thoroughly clean the interior of the tank and piping of all sludge, solids, and residuals.
- Dispose of tank bottom sludge according to applicable state and federal regulations.
- Render the tank free of vapors.
- Label the tank exterior "Out of Service," and the date the tank was removed from service.

Other regulated substance ASTs considered temporary

Other regulated substance ASTs that are on site between 30 days and a year are considered temporary tanks and must meet the temporary tank requirements. These ASTs must be labeled "Temporary Storage" and show the date the storage began.

If a person is not on site 24 hours a day, a sign must be posted with the name, address, and telephone number of the facility owner or operator, or a local emergency response contact. The sign must be posted so that it can be seen outside any containment area.

Finally, the secondary containment area must be constructed and maintained according to the standards for ASTs installed before November 2, 1998.

Moving other regulated substance ASTs

If another regulated substance AST is moved from one site to another, the tank must be determined to be sound by conducting one of the following leak tests before it is put back into use.

- tracer gas test
- vacuum test
- air pressure test
- hydrostatic test

If the other regulated substance AST is moved within the same site and put back into use, it must be determined to be sound through a thorough internal and external cleaning, degassing, and inspection. You can also conduct one of the leak tests above to determine the integrity of the tank.

AST design standards

An underground storage tank cannot be used as an AST. Also, AST providers must comply with industry tank and piping design and construction standards.

Need more information?

Visit the AST Program at <http://www.pca.state.mn.us/cleanup/ast.html>. The site has forms, fact sheets, and other information about ASTs and AST requirements.

You can also call the MPCA at 651-296-6300 or 1-800-657-3864.