



# Monitoring Requirements for Aboveground Storage Tanks

**T**ank owners must regularly monitor and maintain their tanks to ensure the best operation of their tanks.

This fact sheet explains the monitoring requirements for regulated aboveground storage tanks greater than 1,100 gallons capacity (according to Minn. R. 7150.7200).

## Substance transfer

At least one person must be present during loading and unloading of a regulated tank to visually monitor and complete the substance transfer.

## Weekly monitoring

If the secondary containment area has permeability of  $1 \times 10^{-7}$  cm/sec. or tighter, the tank site must be visually monitored at least weekly.

If the secondary containment area is constructed of soil that is more permeable than  $1 \times 10^{-7}$  cm/sec., the tank site must be visually monitored at least every 72 hours.

Double-walled tanks do **not** have to be visually monitored weekly. However, these tanks must comply with the monthly monitoring requirements listed below.

## Monthly monitoring

On a monthly basis, all regulated tanks at a site must be visually monitored. Monthly monitoring includes:

- walking the site to identify cracks in the containment and substance transfer areas

- visually examining all tank, piping, valve, pump and other equipment surfaces for cracks, corrosion, releases and maintenance deficiencies
- identifying poor maintenance and operating practices, or malfunctioning equipment

## Leak detection

Regulated tanks must be monitored for leaks at least once a month using one of the following leak detection methods.

If the containment area meets the  $1 \times 10^{-7}$  cm/sec. permeability requirement, monthly leak detection must include visual monitoring, interstitial monitoring, or vapor monitoring.

1. Monthly visual monitoring can be used for:
  - a. elevated tanks
  - b. tanks on continuous concrete slabs containing Type B and C substances
  - c. tanks containing Type A substances on a continuous concrete slab that is impermeable to the substance being stored
  - d. tanks on containment constructed of fabricated steel
  - e. tanks on containment constructed of fiberglass
2. Interstitial monitoring between the inner and outer shell of a double-walled tank or the tank's shell and the containment area satisfies the leak detection requirement.

3. Vapor monitoring in the soil directly under the tank bottom, as well as above the water table, is also an acceptable leak detection method.

If the containment area does not meet the  $1 \times 10^{-7}$  cm/sec. permeability requirement, monthly reconciliation of substance measurements or statistical inventory reconciliation must be used to satisfy the leak detection requirements.

1. Interstitial monitoring between the inner and outer shell of a double-walled tank or the tank's shell and the containment area satisfies the leak detection requirement.
2. Vapor monitoring in the soil directly under the tank bottom, as well as above the water table, is also an acceptable leak detection method.

### Leak detection for underground lines

All underground lines must be annually leak tested. There are several methods to choose from, including tracer gas, hydrostatic, lockdown pressure, or double-walled piping with sump sensor and audible alarm.

### Annual equipment check

Equipment that is used for release detection, monitoring or warning must be maintained in good working order. Equipment must be checked at least yearly or in accordance with the manufacturer's guidance to ensure it is calibrated and working properly.

### Tank inspection

All field-erected tanks must be internally and externally inspected by a certified tank inspector in accordance with American Petroleum Institute (API) standard 653.

### Corrosion protection

Both regulated steel tanks larger than 1,100 gallons in capacity and underground piping must be inspected by a qualified cathodic protection specialist following the National Association of Corrosion Engineers (NACE) RP-02-85 code within six months of installation and then every three years. Impressed current systems must be inspected for proper function every 60 days.

A lined tank must be internally inspected every ten years if it lacks external cathodic protection.

If monitoring results indicate inadequate corrosion protection, corrective action must occur within 180 days.

### Record keeping

Owners and operators of tanks must keep the records of all periodic monitoring activities for at least three years. The person performing the monitoring activity shall document the:

- name of the person doing the monitoring
- monitoring method or methods used
- monitoring date
- monitoring results

For the life of the tank, owners and operators must keep all documentation of corrosion protection, internal tank inspections, and a written summary of the results.

Owners and operators must keep records demonstrating compliance with out-of-service tank requirements for three years after the tank has been out of service according to Minn. R. chs. 7151.8100-8500. These records must be kept by the owners and operators who took the AST out of service, the current owners and operators of the site, or by mailing the records to the The Minnesota Pollution Control Agency (MPCA) if they cannot be retained at the closed facility.

Finally, owners and operators must keep records of all internal and external inspections for the life of the tank.

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### Need more information?

Visit the AST Program at [www.pca.state.mn.us/cleanup/ast.html](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.

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