



Webinar Feb. 24: Petroleum Storage Tank Maintenance



Back by popular demand! If you couldn't participate in this webinar in 2014, here's your chance to engage with this important topic.

All storage tanks require maintenance to ensure the highest quality of the product stored and to extend the tank's useful life. And that translates into time and money saved for tank owners and operators.

Join us for [STI's Petroleum Storage Tank Maintenance Webinar](#). Expert industry presenters share everything you need to know for optimum tank maintenance:

- **Why fuel quality standards are important**, with Rich Chapman, Industry Liaison, Innospec Fuel Specialties
- **How to inspect your tanks**, with Brad Hoffman, VP Engineering/R&D, Tanknology Inc.
- **Removing water from your storage system**, with John Albert, Tank Program Administrator, State of Missouri
- **STI's R111: Recommended Practices for Storage Tank Maintenance**, with Lorri Grainawi, Director of Technical Services, STI/SPFA

A discount is available for six or more registrants from the same company or agency. Enter code 6ORMORE in the "promocode" field [when you register](#). All participants must register at the same time to receive the discount.

[STI's Petroleum Storage Tank Maintenance Webinar](#) is Tuesday, February 24, from 10-11:30 AM CST. The call-in phone number and URL access will be provided to attendees one week prior to the webinar.

NFPA 30 and 30A 2015 editions, "office hours" Feb. 19



The National Fire Protection Association (NFPA) has issued the 2015 editions of *NFPA 30, Flammable and Combustible Liquids Code*, and *NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages*.

According to Bob Benedetti, NFPA's Principal Flammable Liquids Engineer, there are some changes of interest to the steel tank industry. [Read Bob Benedetti's article...](#)

On February 19, NFPA and Benedetti will hold online "office hours." Registration is free. Topics to be covered include:

- Revisions based on the US Chemical Safety and Hazard Investigation Board recommendations.
- Improvements to the fire protection design criteria for warehouse storage of containers.
- Amendments relating to the use of weak roof-to-shell seam designs for factory-built vertical storage tanks.

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[Read the full story](#)

Shop Fabricated Tank Resources

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[Register for NFPA's "office hours" webinar here...](#)

[See updated 2015 Fire Code Charts on our website...](#)

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Ask the Expert: Should you upgrade or replace?



Question: "I recently became the facilities manager of an entity that includes over a hundred UST systems, used to fuel our large fleet of vehicles. Unfortunately, I have discovered some of the facilities are missing records. Some of these tanks appear to be over 20 years of age. Should I upgrade the tanks to assure compliance with current regulations, or should I replace?"

"There's not always a one size fits all answer," says Wayne Geyer, PE, Executive Vice President of STI/SPFA. "It becomes a function of managing risk. Tank systems with the greatest risk are the prime candidates for replacement."

[Read Wayne's Ask the Expert response...](#)

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Readers, what do YOU think caused this tank failure?

There have been three recent reports in Wisconsin of heating oil tanks inside homes cracking or breaking during delivery. One of those breaks caused heating oil to contaminate the local sewer, with significant cost to the homeowner for clean-up.

Below are photos of one of those tanks. What do YOU think caused this tank failure? Here's what's known:

- Ob-round home heating oil tank, 275 gallons
- Tank installed in basement
- Tight fill
- Whistle vent present and line reportedly clear (unknown if whistle sounded)
- Fuel leaked at weld joint
- No tank deformation was noticeable before this incident
- Failure occurred while tank was being filled

[Email your response](#) and we'll publish the results in the next *Tank Talk*.



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MassDEP adopts new regulations

On December 24, 2014, the Massachusetts Department of Environmental Protection (MassDEP) announced adoption of the following regulations, effective January 2, 2015:

- 310 CMR 7.24(3) Distribution of Motor Vehicle Fuel (Stage I Vapor Recovery)



Industry Calendar of Meetings, Conferences and Events

STI/SPFA Education and Certification Programs

Click links for information and registration

Webinar: Petroleum Storage Tank Maintenance
Feb. 24, 10-11:30 am CST

SP001 AST Inspection Training & Certification

- March 23-27, Owings Mills MD
- April 13-17, Fairbanks AK
- August 17-21, Owings Mills MD

Cathodic Protection Training

June 17-18
North Brunswick NJ

Field Erected Water Storage Tank Seminars

- March 24, El Paso TX
- May 19, San Jose CA
- Sept. 10, Valley Forge PA
- Nov. 10, Atlanta GA

Online Education

Tank Integrity Management Certificate

Archived webinars

- Steel Water Pipe Fittings and Design
- Regulation of Tanks Inside Buildings: A Guide for Users and

- 310 CMR 7.24(6) Dispensing of Motor Vehicle Fuel (Stage II Vapor Recovery)
- 310 CMR 80.00 Underground Storage Tank Regulations (UST)

Tank owners and operators are given 120 days' grace period to comply with the new regulations, ending April 30, 2015.

[Click here for highlights](#) of changes most pertinent to tank owners and operators. Regulations, related materials and informational workshop dates are [posted on MassDEP's website](#).

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One year later: West Virginia Attorney General publishes Elk River chemical spill report



More than 300,000 West Virginia citizens in nine counties were affected by the Elk River chemical spill on January 9, 2014. Many were without potable water for weeks.

Four days after the spill, West Virginia's attorney general initiated an investigation. On April 1, 2014, West Virginia's governor signed a new law enacting the *Aboveground Storage Tank Act* and the *Public*

Water Supply Protection Act, with an effective date of June 6, 2014.

The WV Attorney General's office has just released its *Elk River Chemical Spill Incident Report*. Downstream Strategies, an environmental consulting firm, also recently released *Aboveground Storage Tanks in West Virginia: A Snapshot*.

[Read more about what's happened since the spill...](#)

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California set to permanently close single wall USTs



California's State Water Resources Control Board is preparing Unified Program Agency (CUPA) offices to enforce a state law that took effect September 25, 2014.

The legislation makes changes to California's underground storage tank (UST) regulatory program by establishing criteria under which single walled USTs can be permanently closed. The changes are reflected in the California Health and Safety Code, section 25292.05.

At the recent CUPA conference in San Diego, a draft set of FAQs prepared by the Water Board was available. According to the document, the new law requires that on or before December 31, 2025, **the owner or operator of a UST must permanently close the UST if:**

- It was designed and constructed before 1984 and does not meet the requirements of Section 25291(a)(1)-6; or
- It was designed and constructed before 1997 in accordance with paragraph (7) of Section 25921(a).

The State Water Board also has the authority to develop regulations to close single-walled USTs earlier than December 31, 2015.

The requirement covers the tank (or connected tanks) and piping connected to it. Residual liquid, solids or sludge in the UST must be removed and handled as

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- Steel Water Pipe Coatings and Linings
- Steel Water Tank Standards
- Steel Water Tank Construction
- Steel Water Tank Coatings and Linings



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hazardous waste or recyclable material. The tank must be inerted if it contained a hazardous substance that could produce flammable vapors at standard temperature and pressure.

Double-walled tanks that meet Section 25291(a)(1)-(6) must demonstrate that they are compatible with the material stored, either by means of an approval from an independent testing organization (e.g. UL) or, if that approval is not available, by the tank manufacturer's Statement of Compatibility.

Although the law does not require that the agency notify each tank owner or operator, the State Water Board intends to pursue outreach activities. Toward the end of February, **FAQ's document LG 171 will be published on the [California Water Boards website](#).**

[Read the text of the underground, single-walled UST closure law...](#)

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30 years of EPA's OUST program: STI contributions



It was 30 years ago that Congress created the national underground storage tanks (UST) program by adding Subtitle I to the Solid Waste Disposal Act. As of September 2014, approximately 571,000 active underground storage tanks at 205,000 facilities nationwide store petroleum and other fuel products.

STI is proud of its role over the years in improving storage tank technology and standards. It has conducted numerous studies focusing on storage tank corrosion, and steel tank compatibility with new fuels, including ethanol, methanol and biodiesel. STI has also studied buckling phenomena, to improve third-party testing standards:

Other highlights of STI's storage tank activities:

- STI created the sti-P3 tank and the first national UST corrosion control standard in 1969.
- STI published the Dual Wall Tank Standard in 1984.
- In 1988, EPA OUST promulgated regulations for USTs, specifically referencing STI's sti-P3 and Dual Wall Tank Standard.
- In the 1980's, STI established its Watchdog Program to monitor registered sti-P3 tanks for cathodic protection.
- STI developed Permatank jacketed storage tank in 1993.

Throughout EPA OUST's history, STI has worked closely with the office and with state regulators to ensure that steel hazardous material storage tanks are manufactured to its high standards, for safety and long life.

[EPA OUST's 30th anniversary webpage...](#)

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Tank and Petroleum Use Mishaps*

CALIFORNIA FUEL DISTRIBUTOR FINED NEARLY \$100K FOLLOWING FATAL EXPLOSION

San Bernardino CA, Nov. 14, 2014

"Cal/OSHA has fined a fuel distribution company \$99,345 following an investigation into an explosion at the company's facility that killed one employee and left another with severe burns. The owner of the company had been previously cited for similar incidents.

"On May 6, 2014, two employees attempted welding operations on a 9,000-gallon tanker truck containing an unknown amount of crude oil..."



[Read more...](#)

MALFUNCTIONING GAUGE LED TO TANK EXPLOSION

LaCrosse WI, Dec. 19, 2014

"A malfunctioning gauge led to the explosion of a large storage tank last month at a northside business in November. The La Crosse Fire Department and the head of the company that owns Midwest Industrial Asphalt released information Thursday on the cause of the blast..." [Read more...](#)



FIRE CREWS RESPOND TO LYONSDALE FUEL TANK EXPLOSION

Lyonsdale NY, Dec. 17, 2014

"Multiple fire crews responded to a fuel tank explosion in Lyonsdale early Monday morning. The explosion happened at Lyonsdale Biomass, LLC, located on Marmon Road, shortly before 3 a.m. Fire officials say about 2,100 gallons of heating oil stored in a fuel tank..." [Read more...](#)

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High thermal radiation from large ethanol fires



Small fires radiate less heat and, for fuels with high percentages of alcohol like E85, even less thermal energy is generated. That assumption is accurate for small fires, but not fires in large ethanol storage tanks.

According to the Etankfire project of the SP Swedish Technical Research Institute, "The thermal radiation from ethanol fires is *several times higher* than that from petroleum fuels" (italics added).

In an article in the September/October 2014 issue of [Tank Storage](#) magazine, the Etankfire project describes its research and findings. "To date," the author says, "SP has not been able to find any example of a successful suppression operation against a burning ethanol storage tank...all...have concluded with the total loss of both the ethanol...and the storage tank."

[Read Tank Storage magazine article...](#)
[Learn more about SP Etankfire program...](#)

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ULSD: Diesel fuel lubricity improvers



Over the past few years, *TankTalk* readers and tank conference attendees have been exposed to presentations and articles highlighting random phenomena involving the corrosion of components in ULSD systems. Ongoing research will hopefully identify the cause and provide corrective action.

Another issue of interest regarding ULSD is lubricity. There's an article in the January 2015 issue of [Fuel](#) magazine regarding diesel fuel additives, specifically monoacid lubricity improvers.

Beginning in 2006, the federal government mandated a schedule to increase use of ultra low sulfur diesel (ULSD) fuel as a clean air initiative. Today, fueling with ULSD is almost universal.

Unfortunately, the process of removing sulfur from the fuel also reduces the fuel's lubricity, necessitating the addition of lubricity improvers. According to the [Fuel](#) article's author, a number of problems can be associated with monoacid lubricity improvers:

- **"Interaction with base/alkalai** - Sodium hydroxide contamination of the fuel is possible, which can create diesel soaps and thus plugged fuel filters and injectors.
- **"Fuel filter plugging** - Deposits with sodium carboxylate components.
- **"Deactivation of antistatic agents** - Studies definitively show reduction ranging from 12% - 60% in antistatic properties.
- **"Depletion of fuel lubricity during transportation** - Monoacids have a higher tendency than esters for being depleted during transportation.
- **"Low temperature handling** - During sub-zero temperature exposure, monoacid lubricity improvers may precipitate out of the fuel creating fuel pump operational problems and filter plugging."

[Read the full article here...](#)

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Ex-insurance agent caught selling fake certificates for uninsurable USTs

From 2011 until October of 2013, an ex-insurance agent in Michigan made easy money creating false insurance certificates and selling them to owners of uninsurable underground gasoline storage tanks.

The agent pled guilty to the charges, saying that he thought he was "helping small business owners...basically doing nothing and making money while doing it." It was "a mistake of mind...but not of my heart" he said.

The EPA Special Agent on the case noted that leaking USTs pose a "significant threat to the quality and safety" of groundwater. However, none of the tanks with the fake certificates actually failed. The court took a lenient stand, sentencing the wrong-doer to one day in prison and a \$20,000 fine.

[Read more...](#)

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