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Volume 23, Number 2, September 2008

Leak Detection Requirements Remain a Challenge

It's been almost 10 years since the U.S. Environmental Protection Agency officially launched its national regulatory program for underground storage tanks (USTs). Focusing on the top 15 states for UST inventories as of March 31, the chart at left shows significant operational compliance with leak-detection requirements, a centerpiece of the 1998 regulation, remains a challenge. Boxed data highlights some compliance improvements made during the last five years. The UST inventory in Alabama, Tennessee, and Minnesota has increased slightly since 2003. The top 15 states represent 61.4 percent of the national UST inventory.

<table>
<thead>
<tr>
<th>State</th>
<th>Active USTs 2008</th>
<th>Active USTs 2003</th>
<th>Compliance 2008</th>
<th>Compliance 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>54,296</td>
<td>59,246</td>
<td>83%</td>
<td>74%</td>
</tr>
<tr>
<td>California</td>
<td>39,600</td>
<td>41,089</td>
<td>77%</td>
<td>69%</td>
</tr>
<tr>
<td>Georgia</td>
<td>39,044</td>
<td>39,348</td>
<td>84%</td>
<td>72%</td>
</tr>
<tr>
<td>New York</td>
<td>26,700</td>
<td>32,390</td>
<td>69%</td>
<td>76%</td>
</tr>
<tr>
<td>North Carolina</td>
<td>26,300</td>
<td>31,395</td>
<td>70%</td>
<td>76%</td>
</tr>
<tr>
<td>Illinois</td>
<td>26,543</td>
<td>29,066</td>
<td>63%</td>
<td>59%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>24,490</td>
<td>27,457</td>
<td>73%</td>
<td>62%</td>
</tr>
<tr>
<td>Ohio</td>
<td>23,927</td>
<td>25,311</td>
<td>73%</td>
<td>69%</td>
</tr>
<tr>
<td>Virginia</td>
<td>21,361</td>
<td>22,101</td>
<td>59%</td>
<td>59%</td>
</tr>
<tr>
<td>Michigan</td>
<td>19,957</td>
<td>22,099</td>
<td>43%</td>
<td>60%</td>
</tr>
<tr>
<td>Alabama</td>
<td>11,765</td>
<td>10,444</td>
<td>86%</td>
<td>81%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>11,157</td>
<td>10,893</td>
<td>86%</td>
<td>63%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>11,413</td>
<td>13,741</td>
<td>51%</td>
<td>65%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>16,593</td>
<td>13,874</td>
<td>64%</td>
<td>57%</td>
</tr>
</tbody>
</table>

*Current standards for significant operational compliance are more stringent than federal levels.*

Safety Tank Alliance Renews Agreement with OSHA

On May 29, 2008, the Safe Tank Alliance has extended its agreement with the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) to encourage increased employee access to safety and health information on tank entry, cleaning, maintenance and rescue operations, and duties within and around petroleum and petrochemical liquid storage tanks. The alliance includes STI/SPFA, the American Petroleum Institute (API) and the National Fire Protection Association (NFPA). The Agreement is posted on the OSHA Safe Tank Alliance web page at: [http://www.osha.gov/dcsp/alliances/api/nfpa/api_nfpa.html](http://www.osha.gov/dcsp/alliances/api/nfpa/api_nfpa.html).

"STI/SPFA members believe safety is a value and our participation in the OSHA and Safe Tank Alliance furthers that assurance," said Wayne Geyer, STI/SPFA executive vice president. "We are concerned about our members' employees, their customers, subcontractors, the public and the environment."
Safe Tank Alliance Renews Agreement (cont.)

The Alliance recently published a new Fact Sheet entitled, “Safe Tank Entry when Entering Aboveground Storage Tanks (In Service)” and previously published the Fact Sheet entitled, “Fall Prevention for Aboveground Storage Tanks.” Both Fact Sheets can be downloaded from the home page of the STI/SPFA website at www.steeltank.com.

“Our alliance has made successful strides in developing resources to protect the safety and health of petroleum industry employees,” said Assistant Secretary of Labor for OSHA Edwin G. Foulke, Jr. “OSHA looks forward to working with the Safe Tank signatories to further our efforts of encouraging continued improvement in workplace safety and health.”

“The API is pleased to extend the Alliance for another two years and into our fifth year,” said William J. Erny, senior policy advisor for safety and security issues. “The OSHA and Safe Tank Alliance have been an extraordinarily rewarding experience and one that API and its members are excited about continuing. Through our collective efforts, industry and OSHA can make a difference in the working lives of people and their families through education and growing awareness on safety in the workplace.”

“NFPA welcomes the opportunity to renew the very successful OSHA and Safe Tank Alliance as it enables us to continue the good work we have started,” said James M. Shannon, president and CEO, NFPA. “This partnership brings together industry and OSHA to develop safety tools and educational programs that immediately benefit workers. Through the Alliance, we are also able to collaborate on dissemination of this key safety information to ensure it reaches the broadest worker population.”

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA’s role is to promote the safety and health of America’s working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Fouled Fuel in South FL Awakens Concerns about Ethanol-Ready USTs

Increasing numbers of motorists in southern Florida were discovering this spring that service stations had not prepared their underground storage tanks (USTs) properly for the introduction of ethanol blends according to a WPTV.com report. One driver had to take his new Honda Civic in for service when the check-engine light started to shine.

“They have to replace the fuel injectors, remove and clean the fuel tank, fuel lines, fuel filter and re-install fuel components and so forth,” he said. The bill totaled $748 and wasn't covered by the automobile’s warranty.

Honda officials attributed the problem to contaminated fuel. An internal memo for Honda service managers described “a poor fuel issue” in the southern part of the state.
While local service stations were supposed to certify their preparedness to carry ethanol fuel, some were not adhering to all necessary steps. One component of the certification was to clean existing USTs, but managers at several stations skipped the cleaning and simply added ethanol fuel blends to tanks. The shortcut was resulting in phase separation in USTs, because they were not properly prepared.

Service managers at local auto dealers said numerous vehicles were exhibiting engine troubles related to contaminated fuel.

Florida lawmakers have approved legislation that will require all gasoline sold in the state to contain 10 percent ethanol by 2010, although industry officials expect the conversion to occur faster than that.

Florida motorists consume 8.7 billion gallons of gasoline per year, according to the Florida Times Union newspaper. So, that total sets the stage for an annual ethanol market of 870 million gallons within the next two years.

**Underwriters Laboratories Ends UL 2244 Certification Effort**

The UL 2244 program is history. UL has informed entities that have developed aboveground storage tanks (ASTs) complying with the UL 2244 standard that, as of Aug. 1, it no longer will certify such systems.

“UL has reviewed the certification program offering for Aboveground Flammable Liquid Tank Systems, and at this time has decided to bring this service offering to a close,” UL said in a letter. “UL’s decision is based on business factors associated with this type of product and is no reflection on your product or its merits. The resources necessary to support this certification program have been reviewed, and based on this review, a decision has been made to discontinue our service offering for these products effective August 1, 2008.

“UL understands that finding another supplier for any discontinued service can be challenging, and wishes you success in addressing this. We very much appreciate your relationship with UL and hope that we have the opportunity to serve you in the future.”

The UL 2244 standard was developed during the 1990s as aboveground storage tanks gained momentum in the marketplace. UL 2244 listings covered all core components of the AST system, including: the tank, normal and emergency vents, spill and overflow prevention, leak detection and fuel dispensers.

All motorized fuel dispensing systems were supplied with dispensing and fill devices mounted either on top of the AST, on a side platform or at a location remote from the tank. The UL 2244 standard also covered aviation aboveground tank systems and aboveground generator fuel supply systems.

UL 2244 systems were designed to meet the needs of fire code authorities who required complete documentation for the entire AST system before approvals were granted.

The model code development process is one that entails continuous change upon the requirements for safe flammable and liquid storage within the fire codes. With its UL 2244 standard, Underwriters Laboratories correlated equipment requirements with specific paragraphs within the Codes,” stated Wayne Geyer of STI. “However, UL was unable to keep UL 2244 up to date in a timely manner in order to keep pace with subsequent changes to the fire codes.”

Fortunately, fire code officials kept pace with the changes through monitoring the Codes on a regular basis and by taking advantage of standards, recommended practices, and seminars available from organizations such as Petroleum Equipment Institute and Steel Tank Institute. The development of the UL 2244 standard served an important role initially as AST fuel storage systems were installed with growing frequency in that it assured the use of important tank appurtenances required for safety, such as emergency vents and overfill devices.
Fact or Fiction Challenge

Every so often, we hear of widespread rumors circulating through the petroleum industry. Not to be outdone, the same holds true in the blossoming biofuels industry. We decided to have some fun with these rumors by playing the Fact or Fiction Challenge.

1. Aboveground storage tanks that are filled once per week with biodiesel have a 25-year lifetime due to concerns with fatigue from constant cycling. Fact or Fiction?

2. Ethanol can accelerate corrosion in shop-fabricated steel storage tanks. Fact or Fiction?

3. Denatured ethanol can cause a phenomenon called stress corrosion cracking on large, field-erected tanks and pipes under high stress. Fact or Fiction?

4. Biofuels of various percentages are not compatible with underground steel storage tanks since Underwriters Laboratories (UL) has not tested these tanks for compatibility. Fact or Fiction?

We hope you had as much playing the Fact or Fiction Challenge as we did in creating it! The answers are found page 7 of this document in a box shaded yellow.

Commentary: Attention, TANK OWNERS … Do You Know Where Your PE Has Been?

By Jim Wisuri

For many years in the Chicago area, a local television station would run a quick curfew message at 11 p.m. asking: “Parents, do you know where your children are?”

The streetwise experiences of Chicago area teenagers are not directly comparable to the question of experience levels for professional engineers (PEs), but the underlying questions still resonate.

Where have they been, and what have they been doing?

For PEs who get involved with fuel storage tanks (underground or aboveground) tank owners and managers should act like parents and demand that any consulting engineer demonstrate bona fide experience and familiarity with codes that qualify them to do the work.

For instance, consider the perspective of Wayne Geyer, executive vice president of STI/SPFA, who has decades of experience with storage tank systems as an association executive, engineer and participant in many code meetings.

“Whenever I read the news and learn that a shop-fabricated flammable and combustible liquid storage tank has exploded, my first reaction is a concern for the safety of the personnel and property involved and the firefighters brought in to control the situation,” Geyer says.
“Then I look for pictures to see if the tank had an emergency vent. If not, I wonder how in the world this tank could have been operating without one? Fire codes and tank standards have required emergency vents for decades.”

Similarly, the federal Spill Containment, Control and Countermeasure (SPCC) regulation requires a professional engineer to develop a spill plan that considers how tanks might release their content. In addition to the obvious question of where the tank’s content will travel in the event of a leak, the PE also needs to consider fire-code requirements for emergency venting. If not properly vented and a fire occurs, people’s lives could be in imminent danger - in addition to the environmental hazards involved. Environmental regulations and fire codes depend on tanks to be in compliance to avoid leaks, spills, fires and explosions.

There is no way that an aboveground, atmospheric, shop-fabricated, flammable liquid storage tank for bulk storage or motor vehicle fuel dispensing today should be operating without an emergency vent. PEs need to know these things to assure compliance and safety. A tank without a vent will eventually experience pressure build-up, which can lead to “Boom.”

Then we hear about tanks without overfill control, spill control, or corrosion control. Florida regulators have studied and documented causes of AST environmental release for several years. Their data clearly showed that overfill was the biggest cause. Of course, an overfill immediately creates a potential fire situation. PEs need to know this, too. When an SPCC plan is created, overfill prevention is a must to prevent environmental harm.

These are serious problems, and the essential takeaway is this. Tank owners must understand how critical it is for consultants to be more than simply Professional Engineers. They must have direct experience and expertise with fuel-storage systems.

The problem occurs when tank owners rely on obtaining a PE stamp for tank plans – such as an SPCC plan for an AST. Difficulties are bound to surface when the individual who issues the seal of approval does not have minimum credentials to properly inspect an AST site and recommend corrective-action and code-compliance measures.

“Last time I spoke to a newly licensed PE, it was my understanding that there were no fuel-systems engineering questions on the PE exam,” Geyer says. “It is a fairly specialized field, and although it was more than just a few years ago, I know that my engineering curriculum did not cover it. Some groups have operated in the past with the intention to certify individuals with significant expertise in fuel systems, regardless of their formal college degrees. I joined the American Society of Professional Operating Engineers in 1987 and had to take a 16-hour test to get certified, even though I already had a PE license.”

So, to tank owners in the market for consulting services, be sure to get some solid references before handing out that next engineering assignment for a fuel-storage system.

So, You Would Like to Work with USTs and Cathodic Protection in Wisconsin …

The graphic below shows the credentials needed in Wisconsin for design, installation, testing or repair of cathodic protection on underground storage tank systems. For more information, consult the Storage Tank Regulation Section of the Wisconsin Department of Commerce (on the web at http://www.commerce.state.wi.us/ER/ER-BST-HomePage.html).
Big Apple & Pine Cone State Both Mark Code Firsts

By implementing its first comprehensive fire code revision in almost 100 years, New York City joined thousands of other jurisdictions nationwide in adopting the International Fire Code to significantly improve safety for residents, visitors and emergency personnel, according to http://www.gostructural.com.

As of July 1, the new code, administered by the International Code Council, addresses emergency preparedness, fire safety, fire prevention, permitting and inspection of building safety systems.

“New York City’s new fire code complements the city’s new construction codes, based on the International Building Code, and will save lives and protect property,” said Rick Weiland, International Code Council chief executive officer. “These safety codes, in emergencies, also help to limit danger to first responders, which is why code officials are called ‘first preventers.’”

Similarly, Maine recently took steps to adopt its first statewide mandatory codes, based on the International Building, Residential, Existing Building and Energy Conservation Codes. Communities with a population exceeding 2,000 will be required to adopt by 2012 the Maine Uniform Building and Energy Code.

“Statewide adoption of building and residential codes benefits homeowners, builders and governments by reducing the harm, destruction and cost caused by accidents or natural disasters,” Weiland added.

“Consistent codes throughout the state enhance public safety, help contain construction costs and may lower insurance rates.”

The International Code Council develops codes used in most U.S. cities, counties and states to govern construction of residential and commercial buildings, including homes and schools.

Former Florida Regulator Joins with STI/SPFA as Consultant

Marshall Mott-Smith, former administrator for the Storage Tank Regulation Section of the Florida Department of Environmental Protection, has signed on as a consultant with STI/SPFA.

Now president of The Mott-Smith Consulting Group, an environmental consulting firm based in Tallahassee, FL. Joining him in the consultancy are his brother Ernest and son Ian. He has more than 25 years of experience with storage tank system management and regulation. Ernest Mott-Smith is a professional engineer with more than 25 years of experience in petroleum and hazardous substance cleanup, and Ian Mott-Smith is a certified associate project manager with six years of experience in project management work.
“We are excited about having Marshall and his team affiliated with STI/SPFA,” said Wayne Geyer, executive vice president of the association. “Since forming the new company, Marshall has already worked with us in communicating to the U.S. Environmental Protection Agency about our recommendations for modifying the federal underground and aboveground storage tank regulations.”

In Florida, he was instrumental in the growth of regulatory programs for underground storage tank systems. He also led the development and establishment of rules and standards for secondary containment of storage tanks and piping.

Mott-Smith has testified before congressional committees about storage tank systems, given hundreds of technical and training presentations, and written numerous articles for national and international publications. In addition, he has worked for The National Institute for Storage Tank Management (NISTM) for 18 years as an instructor. He also serves on the NISTM board of directors.

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### Answers to Fact or Fiction Challenge

1. **Fiction!**
   STI has not heard of any steel storage tanks built to industry standards failing due to fatigue, regardless of fuel product stored. Both API and STI have inspection standards in place to assure continued safe operations. Of course, if a tank owner feels as if the tank is getting “tired,” please be sure to contact an STI member at its [www.steeltank.com](http://www.steeltank.com) and select “Find a Fabricator” on the main menu menu bar.

2. **Fiction!**
   STI members have built hundreds of thousands of shop-fabricated steel storage tanks to STI standards. STI is not aware of any failure caused by ethanol. On the other hand, when ethanol is introduced into a tank that has stored other products, the ethanol can loosen deposits and sludge that may have accumulated over time. This is why many petroleum marketers have their tanks cleaned and tested prior to the introduction of biofuels.

3. **Fact!**
   Stress corrosion cracking (SCC) has occurred on a few occasions with large field-erected storage tanks and with pipe under high stress. Both the American Petroleum Institute and the U.S. Department of Transportation continue to study the phenomenon. What is also of interest is where SCC has not occurred - shop-fabricated tanks, E10 storage tanks, E85 storage tanks, ethanol production shops, barges and rail cars. See the May 2008 Tank Talk article on this subject.

4. **Fiction!**
   UL does not offer a certification program that covers E85 for steel shop-fabricated underground or aboveground storage tanks. However, UL does offer a general listing for flammable and combustible liquids, no different than its listing for gasoline and diesel fuels. Accepted industry practices have been well established to require inspection and maintenance procedures with tanks to help mitigate concerns raised from new fuels.

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### FACTS OF STEEL

**Lasso Those Arches for the Cowboys Stadium**

The strength of steel will play a prominent role in the spectacular. Two 1,225 foot (373.4 meter) arches are focal points of the Dallas Cowboys stadium that is under construction in Arlington, Texas, with plans to open during the 2009 National Football League season. According to *Engineering News-Record* magazine, the arches will support a retractable roof in the new structure, that can be configured to seat 80,000 and 100,000 spectators. Each 35-foot (10.7 meter) deep, 17-foot (5.2 meter) wide truss-box arch is made from grade 65 high-strength steel, each weighing 3,250 tons (2,948.4 metric tons). “That’s equivalent to 20 Boeing 777s,” says John Aniol, project principal in the Dallas office of WPM, the roof’s engineer of record. [http://enr.ecnext.com/coms2/article``_febuar080709b-1](http://enr.ecnext.com/coms2/article``_febuar080709b-1).
**Mega-Penstocks Feed Generators in World's Deepest Dam**

Parker Dam in California, the deepest dam in the world, spans the Colorado River between Arizona and California, 155 miles downstream from Hoover Dam. Built between 1934 and 1938 by the Bureau of Reclamation, Parker Dam is operated with Hoover and Davis Dams to bring water and power to residents of the lower Colorado River Basin.

Approximately 73 percent of its structural height of 320 feet (97.5 meters) is below the original riverbed. Men and machines excavated 235 feet (71.6 meters) into the bed of the Colorado River before concrete was poured for the dam's foundation.

Four 22-foot (6.7 meter) diameter steel pipes called penstocks can each carry up to 5,500 cubic feet (more than 41,000 gallons) of water per second to feed the generating units. [http://www.usbr.gov/lc/hooverdam/parkerdam.html](http://www.usbr.gov/lc/hooverdam/parkerdam.html)

**A Well-Tested, 435’ Jordanian Flagpole is Loftiest**

The largest free-standing flagpole in the world at 425 feet (129.5 meters) does its duty in Aqaba, Jordan. Made with A36 carbon steel, the 11-piece, urethane-coated pole was subjected to wind-tunnel and vortex studies to ensure that it could handle environmental conditions without external support. A 1,200-ton crane was used to erect the flagpole on site.

Besides carrying a 66- by 132-foot (20.1 by 40.2-meter) flag, the pole was designed to include a two-person maintenance lift and a live video-feed camera. The A36 carbon steel provides a 36,000 psi (248,212.8 kPa) yield point. Each section is joined utilizing seamless, steel concentric reducers, which create a uniform, tapered appearance. [https://www.usflag.com/monster-flagpoles/aqaba-jordan-425-current-world-record.html](https://www.usflag.com/monster-flagpoles/aqaba-jordan-425-current-world-record.html)
Conferences and Meetings SEPT – DEC

SEPT 14 - 23
ICC Annual Conference and Final Action Hearing, Minneapolis, MN
http://abm.iccsafe.org/2008/splash.html

SEPT 21 - 23
OPIS Fleet Fueling Conference & Exhibition, Atlanta, GA
http://www.opisnet.com/fleetfueling/index.html

SEPT 21 - 24
Distribution Systems Symposium and Exhibition, American Water Works Association, Austin, TX
http://www.awwa.org/conferences/dss/

SEPT 23
STI/SPFA Water Tank Seminar, St. Louis, MO
www.steeltank.com

SEPT 28 - 30
Advanced Biofuels Workshop and Trade Show, Minneapolis, MN

Oct. 1 - 2
STI/SPFA Cathodic Protection Tester Certification, Casper, WY
www.steeltank.com

Oct. 5 - 7
2008 PEI Convention at the NACS Show, Chicago, IL

Oct. 6 - 7
Safe Tank Entry Workshop, American Petroleum Institute, Fort Worth, TX
http://www.api.org/meetings/topics/tanks/index.cfm

Oct. 6 - 8
FABTECH International & AWS Welding Show, Las Vegas, NV

Oct. 8 - 9
Storage Tank Conference, American Petroleum Institute, Fort Worth, TX
http://www.api.org/meetings/topics/tanks/index.cfm

Oct. 9
STI/SPFA Water Tank Seminar, Salt Lake City, UT
www.steeltank.com

Oct. 16 - 17
Platts Refined Products Storage and Transportation Conference, Houston, TX
http://www.platts.com/Events/2008/pc838/

Oct. 18 - 22
WEFTEC.08, Chicago, IL
http://www.weftec.org/home.htm

Oct. 23
APEA 2008 Conference, Exhibition and Awards Dinner, Telford International Center, UK
http://www.apea.org.uk/index.cfm?objectid=668CCEF7-11D8-A53C-B8109359F3A585F0&CFID=800430&CFTOKEN=54a87e9eb7d95335-8D502FE8-11D8-A53C-B855F3C22BD02FFE

Oct. 28 - 30
Clean Gulf 2008, San Antonio, TX
http://www.cleangulf.org/

Nov. 5 - 6
STI/SPFA Cathodic Protection Tester Certification, Norristown, PA
www.steeltank.com
Nov. 6
STI/SPFA Water Tank Seminar, San Antonio, TX
www.steeltank.com

Nov. 10 - 12
Fall Refining and Equipment Standards Meeting, American Petroleum Institute, Los Angeles, Calif.
http://www.api.org/meetings/topics/refining/index.cfm

Nov. 13 - 16
SIGMA 50th Annual Meeting, San Francisco, CA
http://www.sigma.org/meetings/2008-annual/index.html

Dec. 2 - 4
2008 Power-Gen International Conference, Orlando, FL
http://pgi08.events.pennnet.com/fl//index.cfm

Dec. 8 - 12
STI/SPFA, Aboveground Storage Tank Inspection Seminar, Owings Mills, MD
www.steeltank.com
Online Sources of UST, AST and Pipeline News and Information

Online Publications


Buncefield Fire [http://www.buncefieldinvestigation.gov.uk/]

California Air Resources Board, Enhanced Vapor Recovery Phase Ii Advisory: [http://www.arb.ca.gov/vapor/advisories/adv359.pdf]

NEW Code Requirements for ASTs at Motor Vehicle-Dispensing Stations [https://www.steeltank.com/LinkClick.aspx?fileticket=q5Sa17sgE%3D&tabid=108&mid=502]

Energy Tomorrow, American Petroleum Institute [http://www.energytomorrow.org/]

NEW Ethanol Biorefinery Locations [http://www.ethanolrfa.org/industry/locations/]

Fuel Oil News [http://www.fueloilnews.com/]

International Code Council [http://www.ecodes.biz/]


The PEI Journal Online [http://www.thepeijournal.org/content/2q08/index.php]

Recommended Practices for Overfill Prevention for Shop-Fabricated Aboveground Tanks (PEI RP600) [http://www.pei.org/RP600]


Renewable Fuels Association Industry Statistics [http://www.ethanolrfa.org/industry/statistics/]


NEW Safe Tank Alliance Safe Tank Entry Fact Sheet [http://www.steeltank.com/LinkClick.aspx?fileticket=u6%2fNp2egRNY%3d&tabid=36&mid=578]

Steel Tank Institute Water in Fuel Tanks Research [http://www.steeltank.com/LinkClick.aspx?fileticket=SmQZA0POL4E%3d&tabid=36&mid=535]


Associations

American Iron & Steel Institute [http://www.steel.org]
American Petroleum Institute [http://api-ep.api.org/]
American Water Works Association [http://www.awwa.org]
Clean Diesel Fuel Alliance [http://www.clean-diesel.org/index.htm]
National Association of Convenience Stores [http://www.nacsonline.com/NACS/News/]
National Biodiesel Board [http://www.biodiesel.org]
National Ethanol Vehicle Coalition [http://www.e85fuel.com_]
National Leak Prevention Association [http://www.nlpa-online.org/standards.html]
National Oilheat Research Alliance [http://www.nora-oilheat.org]
Petroleum Marketers Association of America  http://www.pmaa.org/

NEW  Renewable Fuels Association  www.ethanolrfa.org

Safe Tank Alliance  http://www.osha.gov/dcsp/alliances/api_nfpa/api_nfpa.html#api

Society of Independent Gasoline Marketers of America  http://www.sigma.org/

Steel Plate Fabricators Association  http://www.spfa.org/

Steel Tank Institute  http://www.steeltank.com

Federal Regulatory Agencies (United States)

U.S. Chemical Safety and Hazard Investigation Board, Methanol Fire Report

U.S. Department of Labor, Occupational Safety & Health Administration
http://www.osha.gov

U.S. Department of Labor, Occupational Safety & Health Administration, Storage Tanks
http://www.osha.gov/dcsp/products/topics/storagetank/index.html

U.S. Environmental Protection Agency, Fiscal Year 2009 Budget Summary

U.S. Environmental Protection Agency, Laws and Regulations
http://www.epa.gov/lawsregs/laws/index.html

U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System, Stormwater Pollution Prevention Plans for Construction Activities
http://cfpub.epa.gov/npdes/stormwater/swppp.cfm

U.S. Environmental Protection Agency, Office of Underground Storage Tanks
http://www.epa.gov/swerust1/

NEW U.S. Environmental Protection Agency, Office of Underground Storage Tanks, Biofuels Compendium
http://www.epa.gov/oust/altfuels/bfcompend.htm

http://www.epa.gov/oust/fedlaws/epact_05.htm#Final

U.S. Environmental Protection Agency, Office of Underground Storage Tanks, State Delivery Prohibitions
http://www.epa.gov/oust/dp/index.htm

U.S. Environmental Protection Agency, Oil Program, Spill Prevention Control and Countermeasure
http://www.epa.gov/emergencies/content/spcc/index.htm

State Regulatory Agencies (United States)

California Air Resources Board, Vapor Recovery Information
http://www.arb.ca.gov/vapor/vapor.htm

U.S. Environmental Protection Agency, Office of Underground Storage Tanks, State And Territory UST/LUST Program Status And Contacts
http://www.epa.gov/swerust1/states/statcon1.htm

Model Codes and Testing Organizations

American National Standards Institute  http://www.ansi.org

ASTM International  http://www.astm.org/


National Fire Protection Association  http://www.nfpa.org/

Southwest Research Institute  http://www.swri.edu/

Underwriters Laboratories  http://www.ul.com/

Underwriters Laboratories Canada  http://www.ulc.ca