Just UST News

News & Views from California's Underground Storage Tank Program

Issue No. 1 | State Water Resources Control Board | Autumn 2000

We're Ba-a-ack!

After a lengthy hiatus, we're resuming publication of the State Water Resources Control Board (SWRCB) Underground Storage Tank (UST) Program newsletter, Just UST News. This semi-annual newsletter will provide you with up-to-date information on what we're doing, who our staff members are, current publications or technical information, and other issues that concern local agencies and the UST industry. If you have any suggestions for topics or ideas for the newsletter, please call Julie Berrey at (916) 341-5871.

Liz Haven

New UST Program Manager

On March 1, 2000, we wished a fond farewell to Allan Patton who managed the UST Program for four years, and now manages the UST Cleanup Fund. During Allan's tenure as Program Manager, he improved the working relationship between the State Board and local agencies on UST and Unified Program issues. We will miss him and we wish him well.

On April 1, 2000, Liz Haven was promoted to Supervising Engineering Geologist and now manages the UST Program. Prior to coming to the UST Program, she was the manager of the Chapter 15 Program, which is the SWRCB's solid and hazardous waste management program. Before joining the State Board in 1991, Liz worked as a hydrogeologist for Chevron, USA and as an engineering geologist for a consulting firm. She has also taught geology courses at California State University, Sacramento. Liz holds a B.A. degree in Geology and an M.S. degree in Engineering Geology. She is a California Registered Geologist and Certified Engineering Geologist. Welcome Liz!

Who's Minding the State UST Store?

We've had many structural and staff changes in the UST Program over the last several months. Along with Liz Haven, the SWRCB added many new staff members. In September 1999, the engineering unit was divided into two units. The engineering units provide support and technical assistance for UST leak prevention. Engineering Unit I conducts the CUPA evaluations and leads the effort to write regulations pursuant to SB 989. This includes establishing training requirements for owners, operators, technicians and inspectors, and notifying UST owners and operators of the requirements for enhanced leak detection and under-dispenser containment. Engineering Unit II is leading the Field-Based Research Project and the Marina Fueling Project. (See articles on these topics in this newsletter.) When fully staffed, 11 people will work in the engineering units.

In addition to all the staff changes, we're also moving to a new building. In an effort to house all environmental programs under one roof, Cal/EPA has constructed a high rise building in downtown Sacramento. The UST Program is scheduled to move in by October 16, our new location is 1001 I Street, 17th floor, Sacramento, CA 95814. However, the mailing address

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In this Issue

On the Web

The UST program updates its web site on a regular basis. You may visit the site at: http://www.swrcb.ca.gov/cwphome/ust/usthmpg.htm. Newly available on the web are the Ethanol Advisory Letter and the booklets "Understanding Automatic Tank Gauging Systems" and "Understanding Line Leak Detection Systems." There's more to come, so check back often!

Non-Upgraded USTs

SB 989 requires the SWRCB to evaluate options for dealing with non-upgraded USTs left in the ground. To meet this mandate, the SWRCB has convened a workgroup of interested parties to review and evaluate options for the prompt closure of petroleum underground storage tanks that have not been upgraded to meet the December 22, 1998 upgrade deadline. On or before January 1, 2001, the workgroup shall recommend to the Secretary for Environmental Protection appropriate actions to reduce the threat to ground water resources posed by those tanks. For additional information please call John Welch at (916) 341-5793.

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remains P. O. Box 944212, Sacramento, CA 94244-2120. Below is a list of Engineering Unit I and Engineering Unit II staff, and our new telephone numbers:

Engineering Unit I	
Dave Holtry, *Supervisor*	**(916) 341-5692**
Scott Kranhold	(916) 341-5857
Chuck NeSmith	(916) 341-5746
John Welch	(916) 341-5793
Marjorie Rogers	(916) 341-5775

Engineering Unit II	
Shahla Farahnak, *Supervisor*	**(916) 341-5668**
Julie Berrey	(916) 341-5871
Laura Chaddock	(916) 341-5870
Mary Allen (Drewry)	(916) 341-5872
Erin Ragazzi	(916) 341-5863

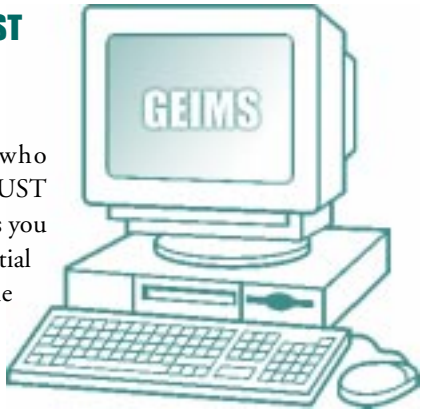
Ethanol Advisory Letter

Governor Davis is requiring that California phase out the fuel oxygenate MTBE by the end of 2002. Ethanol is a likely replacement for MTBE. However, some older tanks, piping, adhesives, and leak detection equipment may not be compatible with ethanol-blended fuels. In March, the SWRCB released an advisory letter to UST owners and operators regarding ethanol-blended fuel compatibility. For a copy of this letter, check our web site at www.swrcb.ca.gov or call Marjorie Rogers at (916) 341-5775.

Booklets, Booklets, Booklets

The SWRCB has completed the "Understanding Line Leak Detection Systems" booklet. It is available in hard copy and on the web. Thank you to everyone at the local agencies who helped review it. The SWRCB's next effort will be a booklet on understanding how sensors work. For additional information please call Shahla Farahnak at (916) 341-5668.

Local Agencies Send UST Databases to SWRCB for GEIMS



Thank you to everyone who responded to our request for UST A and B form information. As you know, this information is essential for the SWRCB to determine which UST facilities will be subject to SB 989's requirement for enhanced leak detection. SB 989 mandates that all UST facilities with single-walled components within 1,000 feet of a public water supply well conduct enhanced leak detection. The SWRCB plans to notify affected owners and operators by November 1, 2000.

Some agencies sent their databases in an electronic format, while others sent hard copies of the forms A and B. We have received thousands of forms and we are now entering the data into the Geographic Environmental Information Management System (GEIMS) database. We had set an internal deadline of March 31 to gather all agencies' databases. Unfortunately, we have not yet received all databases. We are still trying to obtain data from about 10 local agencies. For those agencies that haven't responded, we ask you to submit your information as soon as possible.

Not only is this information vital for the new enhanced leak detection requirement, it is crucial for the Field-Based Research project and for the upcoming under-dispenser containment requirements. Last but not least, this information is important for your agency as well. Once completed, this database will be a tool to help all of us do a better job tracking and managing UST facilities in our state. Please call Barbara Wightman at (916) 341-5798 or Julie Berrey at (916) 341-5871 if you have questions.

Enforcement Alert

The SWRCB has issued three letters alerting local agencies about upgrade and enforcement issues. For copies of the letters or enforcement-related questions, call Barbara Wightman at (916) 341-5798.

Amendments to the California Health and Safety Code

On August 24, 2000, Governor Davis signed Senate Bill 1398 (Stats. 2000, ch. 245.), modifying the conditions under which certain USTs are exempt from the underground storage tank requirements. Section 25283.5 of the California Health and Safety Code, effective January 1, 2001, is now amended to allow the owner or operator to visually inspect these exempted UST systems weekly, rather than daily. Other language was added to clarify that the exemption does not prohibit a local fire chief or enforcement agency from enforcing applicable local or state fire, building or electrical code requirements. For senate bill history and/or a copy of the law, visit http://www.leginfo.ca.gov.

Marina Fueling Project

In 1999, a SWRCB advisory panel completed a study to determine if any further upgrades should be made to marina fueling equipment to prevent releases of MTBE and petroleum products to surface drinking water bodies. (To download a copy of the Advisory Panel's report, go to http://www.swrcb.ca.gov/cwphome/ust/usthmpg.htm and click on the Documents button.)

The advisory panel determined that inconsistencies exist between the statutory and regulatory requirements for aboveground and over-water marina piping (UST, above ground storage tank [AST] and National Fire Protection Association [NFPA] regulations). The panel recommended that AST and UST statutory and regulatory requirements for marina piping be made consistent and specifically designed for marinas.

Therefore, the SWRCB is contracting with Underwriter's Laboratory, Inc. to develop a standard to address the design and installation criteria of marina fueling facilities. This standard will cover both UST and AST fuel storage and delivery systems. It will address environmental degradation of materials and include testing for exposure to UV radiation, corrosion, fresh and saline environments, fuel compatibility and permeability, water level fluctuations, and several other criteria.

During the development of the standard, the SWRCB will be collecting information on how marina facilities are designed and operated. We will use this data to create a database that will help us to identify and understand the variety of construction and leak detection methods implemented by owners and operators throughout the state.

The SWRCB is requesting your agency's voluntary participation in the collection of this data by completing an inspection form during your next inspection of a marina fueling facility. This data will not only help our agency develop an improved design and materials standard for marina fueling construction, but will also help to develop legislative and regulatory language specific to marina fueling facilities. The SWRCB plans to send the Marina Fuel Storage and Inspection Forms in a package to all local agencies. We look forward to your agency's participation!

If you have questions about the project please call Laura Chaddock at (916) 341-5870 or Julie Berrey at (916) 341-5871.

US EPA Catalogs Available

US EPA has two new catalogs available: "Catalog of EPA Materials on Underground Storage Tanks" (publication #EPA 510-B-00-001, January 2000) and "Underground Storage Tank Program Directory" (publication #EPA 510-B-00-005). The first is a catalog of US EPA's informational leaflets, booklets, videos and software items designed to provide UST owners and operators with information to help them comply with federal UST requirements. The second is a directory of US EPA's Office of Underground Storage Tanks (OUST), listing US EPA contacts in alphabetical order by activities and projects. To order these and other OUST publications from US EPA call (800) 424-9346.

Sensor Recall

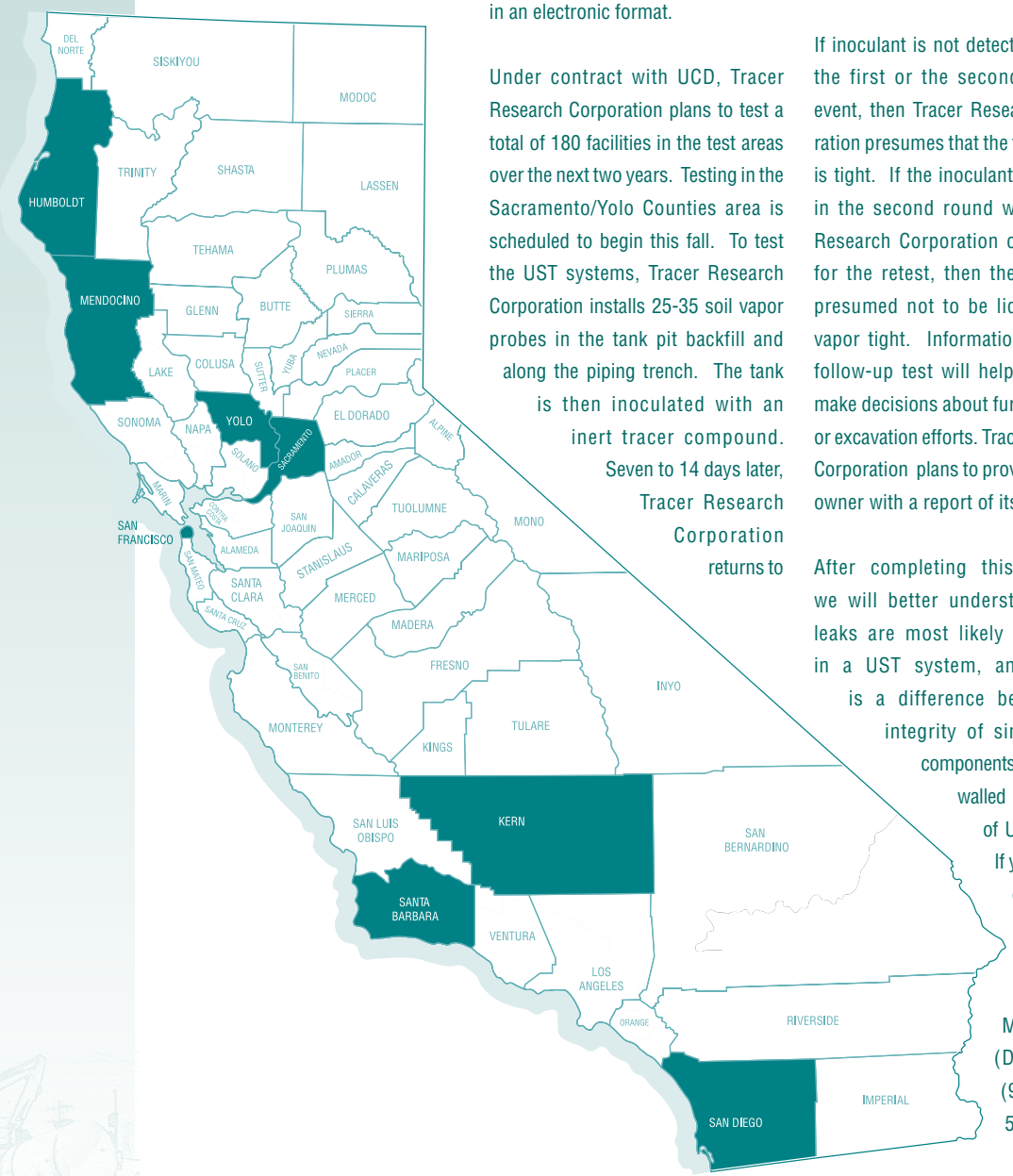
On August 18, 2000, Veeder-Root issued a recall of certain discriminating sensors. These sensors may be located in containment sumps or fiber trench systems and are designed to distinguish between the presence of water and hydrocarbons. According to Veeder-Root, "The affected sensors will alarm in all cases where liquid is present, however, they may not distinguish between fuel and other liquids. This is an important issue because users may have a different response protocol for liquid alarms versus fuel conditions." The following model numbers, shipped between September 26, 1999 and May 14, 2000, are being recalled: 794380-320, 322, 350, 352, 361, and 362. For a copy of the recall letter and to get a list of the exact serial numbers that may be affected, please call Veeder-Root at (860) 651-2700.

Field-Based Research Project - Are 1998 UST Upgrades Effective?

In January 1999, a SWRCB Advisory Panel determined that more research needs to be conducted to evaluate the effectiveness of the 1998 upgrades. As a result of the panel's recommendations, SB 989 mandates the SWRCB to conduct field-based research to evaluate the effectiveness of new and upgraded UST systems in California.

University of California at Davis (UCD) is under contract with the SWRCB to conduct the project. The counties of Humboldt/Mendocino, Kern, Sacramento/Yolo, San Diego, San Francisco, and Santa Barbara were selected as the six test areas because they have a wide range of UST system types, construction materials, and construction techniques, and they were able to provide UST permit data in an electronic format.

Under contract with UCD, Tracer Research Corporation plans to test a total of 180 facilities in the test areas over the next two years. Testing in the Sacramento/Yolo Counties area is scheduled to begin this fall. To test the UST systems, Tracer Research Corporation installs 25-35 soil vapor probes in the tank pit backfill and along the piping trench. The tank is then inoculated with an inert tracer compound. Seven to 14 days later, Tracer Research Corporation returns to collect vapor samples from the probes and analyze them for the inoculant. If any inoculant is detected, the owner/operator is to make repairs to the system. Then, Tracer Research Corporation comes back and adds a different inoculant to the tank for a second round of testing. This second test is to determine whether the repairs were adequate to stop leaks from the UST system.



After completing this research, we will better understand where leaks are most likely to develop in a UST system, and if there is a difference between the integrity of single-walled components and double-walled components of UST systems. If you have any questions about the project please call Mary Allen (Drewry) at (916) 341-5872.

Modernizing Vapor Recovery Systems

The California Air Resources Board (ARB) has adopted regulations requiring modernization of vapor recovery systems to be phased in from 2001 through 2008. The new requirements include:

- making gas pump vapor recovery systems more compatible with 1998 and newer cars, which have on-board carbon canisters to capture vapors;
- reducing vapor leaks from gasoline USTs;
- reducing evaporation from hoses and nozzles as they hang on pumps between use;
- redesigning nozzles to reduce gasoline drips; and
- installing computerized in-station diagnostic systems to alert operators when vapor recovery equipment malfunctions.

In 2002, ARB will be reviewing the technological advancements for leak-proof nozzles to ensure that equipment will be available to meet the requirements of the new regulations.

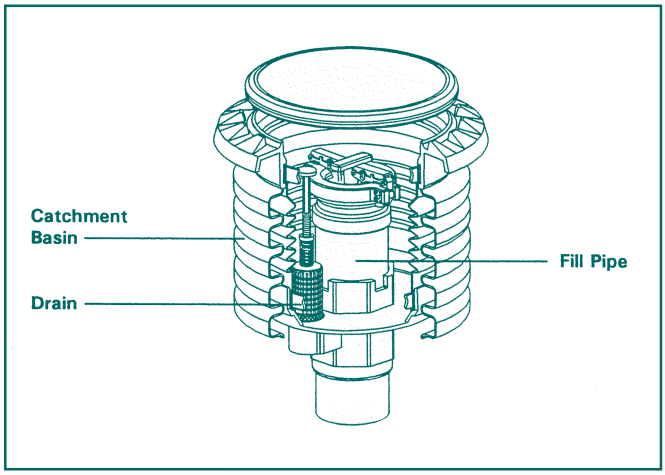
UST Training Steering Committee

SB 989 requires the SWRCB to adopt regulations requiring UST owners, operators, service technicians, installers and inspectors to meet industry-based training standards. It also requires UST facilities to be operated following industry-established best management practices. A steering committee of industry representatives, local agency members and SWRCB staff has been formed to develop the industry-based training standards. The committee plans to finalize training standards by the end of March 2001. If you are aware of organizations with UST training standards or any documents with training information or UST best management practices, please call Scott Kranhold at (916) 341-5857.

ARB Considers De-Certifying Some Spill Buckets

On February 24, 2000, the California Air Resources Board (ARB) mailed notices to some spill containment box manufacturers warning them that they are considering de-certifying the use of spring-actuated drain valves in containment boxes if alternatives (retrofits) are not found.

Due to the operation of the vapor recovery system, spring-actuated valves will not allow liquid to drain into a UST that maintains a positive pressure. Some local air pollution control districts have stated that operators are unable to drain product from the spill buckets without opening the Phase I vapor dry break to relieve pressure in the UST, thereby increasing emissions.



The ARB has not established a timeline or deadline for decertifying these types of spill buckets. Prior to de-certification, the ARB will try to find innovative solutions or alternatives such as retrofits to keep existing equipment in place. Modified spill buckets with drain valves that drain into the drop tube are currently being tested. For more information, contact Ranjit Bhullar at (916) 323-7370 or Lamar Mitchell at (916) 323-1474, both at the ARB.

Next Workshop: October 17th!

Monthly UST Inspector Workshop

In April, the SWRCB initiated a series of monthly UST inspector workshops. The purpose of these workshops is to provide technical information and to create a network for the inspectors and the SWRCB. Over the last six months the workshops have been well attended and the inspectors have heard presentations from industry representatives on UST monitoring equipment, the proper installation of dispenser and turbine sumps, tank testing, and other technical issues of importance to inspectors. We've also discussed the new proposed regulations and upgrade enforcement issues.

To date, the SWRCB has hosted the workshops. In the future, the meetings will likely travel to various local agencies so that more inspectors have an opportunity to attend. These workshops are a great opportunity to discuss your concerns, meet SWRCB staff and other inspectors, and learn about new technologies. Our meetings are held the third Tuesday of every month; the next one will be October 17 in Red Bluff. Please call Mary Allen (Drewry) at (916) 341-5872 for details.

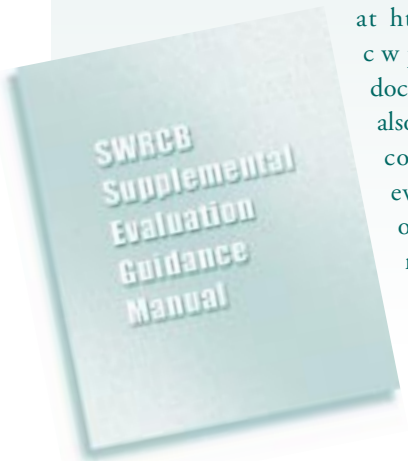
UST Program Evaluations

Self audits. Annual reporting. Written plans and procedures. There is no doubt that we all have more paperwork than ever before. However, in the long run, this paperwork can improve efficiency and effectiveness. Where inspections and enforcement actions are concerned (the core components of any UST program) paperwork can be important. Concepts such as program implementation, permitting, enforcement, and evaluations are obviously complex. Developing written plans and procedures helps make sense of the UST program, provides direction for goals, and promotes consistency in implementation. Also, self audits and annual reports are ways to help your agency determine if it is achieving its desired results.

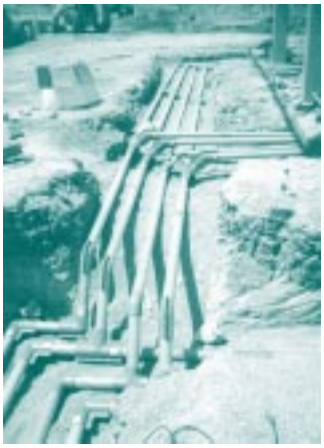
Like a self audit, a CUPA evaluation is intended to improve program implementation. Throughout this evaluation, an agency's program is reviewed against performance standards and best management practices. Afterwards, the state prepares a report that identifies program successes and areas where improvements can be made.

Because program implementation is a coordinated effort between local and state levels, the local agency is given an opportunity to evaluate the evaluators and the evaluation process! Don't pass up the chance to fill out an evaluation form – the state really does want your feedback. Identify your suggestions or concerns on the form provided at the closing meeting of the CUPA evaluation.

The SWRCB has developed a Supplemental Evaluation Guidance manual. The manual gives suggested write-ups on issues discovered during previous evaluations and is available on the Internet at http://www.swrcb.ca.gov/cwphome/ust/docs/documents.htm. The manual also explains how the SWRCB conducts its evaluations: everything from the types of documents evaluators review to copies of checklists that the evaluators use. For information about the manual, call John Welch at (916) 341-5793.



Revisions of UST Regulations on the Horizon



The SWRCB is proposing to amend California underground storage tank regulations in response to several changes made to the Health and Safety Code enacted through Senate Bill 989 (Stats.1999, ch. 812.), signed in October 1999. Senate Bill 989 essentially codifies Executive Order D-5-99. This executive order was the Governor's response to a University of California report on the environmental impacts of Methyl Tertiary Butyl Ether (MTBE) — an additive put into motor vehicle fuel beginning in the late 1980s, early 1990s. The executive order requires the phase-out of MTBE in fuel by December 31, 2002.

Current underground storage tank laws and regulations were promulgated before we knew about MTBE's effects on the environment. Therefore, additional provisions were included in Senate Bill 989 to supplement the phase-out of MTBE with more stringent construction and monitoring standards for underground storage tanks. These new construction and monitoring requirements were based in part on the recommendations of two SWRCB panels, the Advisory Panel on the Leak History of New and Upgraded UST Systems (Leak History Panel) and the California Leak Monitoring group (CALM). In order to incorporate all of the regulatory changes mandated by SB 989, the SWRCB must develop several packages of proposed changes to the regulations. The first package of proposed regulations will:

1. Require UST owners or operators to conduct triennial testing of UST secondary containment systems, including testing of under-dispenser containment;

2. Require UST owners or operators of UST systems with a single-walled component that are located within 1,000 feet of a public drinking water well, to conduct triennial enhanced leak detection. This enhanced leak detection must be a test method that ascertains the integrity of an underground tank system by introduction, and external detection, of a substance that is not a component of the fuel formulation that is stored in the tank system;

3. Require all UST owners and operators, including those who own or operate single-walled UST systems, to install under-dispenser containment by December 31, 2003. Some UST systems must have the under-dispenser containment installed prior to that date;

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Should Petroleum Equipment Remain in Operation Forever?

Reprinted with permission from Steel Tank Institute Tank Talk, March/April 1999

December 1998 is history. The EPA compliance deadline is past; industry will no longer focus on old petroleum equipment storage tank systems. From now on, the regulatory focus will be toward installing and maintaining equipment that meets new regulations.

Already, at the recently concluded EPA UST/LUST Conference, a greater amount of discussion was devoted to operation and maintenance of petroleum equipment. For example, several programs emphasized that the key to future pollution prevention is proper operation of leak detection equipment. Once the proper equipment has been installed, how can we tell that it is working properly?

The question being raised is just when does today's equipment become obsolete? How long should equipment installed in 1985, when regulations were initially promulgated, be expected to last? How many companies from that era are still in business today? Powerhouse companies like Owens Corning and Buffalo Tank no longer exist as tank manufacturers.

Life Expectancy Concept

STI recently researched a selection of state regulations to determine if any of them mandate the replacement of equipment. We found, for example, that in Florida, all tank and pipe equipment must have secondary containment by the year 2009. New Hampshire requires that all single-wall tanks be closed by the year 2015 and that any tank system without corrosion protection be closed before the system reaches 25 years of age.

The State of Connecticut adds an interesting twist to their rule. Section 22a-449 states that no owner or operator of an UST system shall use or operate any component of that system beyond its life expectancy. The rule defines life expectancy rather elaborately. But in a nutshell, it suggests that tank life expectancy is the time period of the manufacturer's corrosion or structural warranty.

Maine has a similar concept, written into their statute, Section 38 § 564, "Regulation of underground oil storage facilities used to store motor fuels or used in the marketing and distribution of oil." It states in part:

> *"Mandatory facility replacement. Upon the expiration date of a manufacturer's warranty for a tank, the tank and its associated piping must be removed from service and properly abandoned . . . This subsection does not apply until January 1, 2008 to a tank installed before December 31, 1985 that has been retrofitted to meet the requirements of subsections 1-A and 1-B." [1997, c. 624, §3 (amd).]*

What To Do

Several tank manufacturers have suggested that STI seriously consider recommending that all USTs be replaced after the tank warranty expires. Before 1988, most USTs had a 20-year warranty. Since then, manufacturers have issued warrantees extended to 30 years, but have done this primarily for marketing purposes. Other equipment, including pipe, also have well defined warranty periods.

Think again about the past 20 years. Gasoline has changed significantly. Today, ethanol and MTBE are already mixed into most automotive fuels, to comply with clean air mandates. The government is now forcing oil companies and the automotive industry to comply with even lower emission standards. As a result, newer, more exotic chemicals may be added to fuels. But what affect will these chemicals have on existing storage tank systems? Can leak detection equipment identify all of these components? Are tank materials, including plastics and elastomerics, compatible?

In March 1999, a local newspaper in the Chicago area devoted a full page to fuel cell development touting it as the next generation of automotive technology. The fuel cell converts methanol into hydrogen, which in turn powers the car. Water is the only by-product. In another recent clipping, DaimlerChrysler has begun development of methanol-based fuel-cell engines, for use in production automobiles by 2004. Will methanol be the future fuel? Certainly not in the year 2000, and maybe not ever. But the question still is "How will today's tank infrastructure support the new fuels of tomorrow?"

Obviously, equipment suppliers of today cannot predict the fuels of tomorrow. Equipment is warranted for the period of time in which the manufacturer has a high confidence level of its safe operation. Most tanks being built today can handle the fuels of today. But most equipment, including manufacturing equipment, computers, and office equipment, are depreciated over the

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Editor:
Julie Berrey,
Environmental Specialist

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4. Require persons who conduct UST monitoring equipment annual maintenance certification to have a California contractors license, and be certified and triennially re-certified by the manufacturer of the monitoring equipment being tested; and

5. Require UST installers to be triennially re-certified by the manufacturer of the tank system being installed.

The Notice of Proposed Rulemaking regarding this first package of regulations was published in the California Regulatory Notice Register on May 12, 2000. A public hearing was held on July 18, 2000 at the County of Los Angeles Department of Public Works at the end of the 45-day comment period. If the proposed regulations are amended in response to these comments, the SWRCB will notify those who commented as well as those on our interested parties mailing list to let them know that changes have been made. The SWRCB will provide 15 more days for further comments on the proposed regulations.

After that, the SWRCB will adopt the proposed regulations at one of its regularly scheduled board meetings, and then submit the adopted rulemaking package to the Office of Administrative Law for final approval.

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anticipated life of the equipment. They are replaced when their useful life is met, before they fail or begin a costly maintenance cycle. Should petroleum equipment be treated any differently?

It took regulatory action to replace the non-corrosion protected tank systems of yesterday. Corrosion-protected tanks, including FRP tanks, have been in use for more than 35 years; double-wall tanks since 1984. What will it take to replace antiquated equipment in tomorrow's world? Will tank owners routinely replace tanks after their warranted life, or will regulation, like Connecticut's, become necessary? Owners/operators have already spent millions of dollars cleaning up product releases from old equipment and improper tank management. Let's not repeat history in the next decade.

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P.O. Box 944212
Sacramento, CA 94244-2120