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FY 2010 Annual Report On The Underground Storage Tank Program

For more than 25 years, EPA, states, territories, tribes, and other partners have made significant progress in preventing, detecting, and cleaning up leaks from underground storage tanks (USTs).

This report provides a snapshot of UST program activities in fiscal year (FY) 2010 (October 1, 2009 - September 30, 2010). The report presents advances made in preventing releases, conducting cleanups, and implementing the leaking UST (LUST) provision of the American Reinvestment and Recovery Act. These advances ultimately result in preventing environmental contamination, protecting groundwater, and further protecting human health and the environment from UST releases. The UST program is comprised of a meaningful partnership among states, territories, tribes, and EPA.

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FY 2010 UST Program Highlights

At the end of FY 2010, there were approximately 597,000 federally-regulated, active USTs at approximately 215,000 sites across the country. EPA provides money directly to tribes and states to develop and implement their prevention and cleanup programs. Collectively, the UST program has accomplished a great deal.

Prevention

- More than two-thirds of active USTs are complying with requirements to prevent and detect leaks (exceeding EPA's goal of 65.5 percent compliance)
- The compliance rate in Indian country was 67 percent, a significant improvement over FY 2009
- UST partners increased inspection efforts and almost all states met the first three-year inspection mandate of August 2010, which was required by the Energy Policy Act of 2005
- The number of new UST releases identified each year continues to decline, with just over 6,300 new leaks reported in FY 2010 (meeting EPA's goal to reduce annual releases to fewer than 9,000); this 11 percent drop in new releases reported is a dramatic decrease from FY 2009
- EPA continued regulation development to incorporate Energy Policy Act of 2005 requirements and update existing regulations

Cleanup

- EPA further implemented the LUST Recovery Act, providing support to states, territories, and tribes
- Of the 495,000 releases reported since the beginning of the program, UST partners completed more than 401,000 cleanups or about 80 percent, leaving a backlog of just over 93,000 releases remaining to be cleaned up
- UST partners cleaned up 11,591 sites, meeting approximately 95 percent of EPA's FY 2010 goal to clean up 12,250 LUST sites
- EPA continued to promote cleaning up and reusing petroleum brownfields
- EPA continued studying and characterizing the LUST cleanup backlog to improve the pace of cleanups



Old gas stations may indicate underground storage tanks are nearby

FY 2010 GPRA* National UST Program Goals And Accomplishments

	Goal	Actual
Significant Operational Compliance Rate	65.5%	68.6%
New Reported Releases	<9,000	6,328
Cleanups-Total	12,250	11,591
Cleanups-Indian Country	30	62

*Government Performance Results Act of 1993

Advances In Preventing Releases

Since the beginning of the UST program, preventing petroleum releases into the environment has been one of our primary goals. EPA and our partners made major progress in reducing the number of new releases, yet thousands of new releases are discovered each year. The lack of proper operation and maintenance of UST systems is a main cause of these new releases. EPA is working with states, territories, tribes, and other partners to advance prevention efforts and quickly detect leaks when they occur.

Our efforts have been enhanced by the release prevention requirements mandated in the Energy Policy Act of 2005. To address these mandates, EPA produced several grant guidelines to help states carry out the requirements. Most states already have regulations in place that meet the requirements; other states are working to implement the provisions in upcoming years. EPA continues to work with states and tribes to prevent UST releases and meet the mandates initiated with the Energy Policy Act.

UST Universe - End Of FY 2010

States	Active Tanks:	594,665
	Closed Tanks:	1,742,499
Indian Country	Active Tanks:	2,668
	Closed Tanks:	5,705

Reducing Confirmed Releases

In FY 2010, EPA, states, territories, and tribes focused on bringing UST systems into compliance and keeping them in compliance with leak detection and release prevention requirements. One way the program assesses the relative success of these prevention efforts is to measure the number of confirmed releases each year.

EPA achieved its FY 2010 goal to reduce confirmed tank releases to fewer than 9,000. There's been a steady reduction in annual underground storage tank confirmed releases, from almost 67,000 in FY 1990 to 6,328 in FY 2010.

Preventing Releases In Indian Country

Tribes and EPA worked to improve UST compliance in Indian country during FY 2010 by enhancing inspection efforts, developing additional compliance-focused assistance agreements with tribes, and providing training to tribal environmental professionals and facility owners and operators.

Designating tribal inspectors as authorized representatives of EPA to inspect USTs can help increase the geographic coverage and frequency of inspections in Indian country. It also helps enhance relationships and increase the capabilities of tribal inspectors. Since EPA's commitment in 2006 to issue federal credentials for tribal inspectors, a total of six inspectors received credentials; although currently four hold credentials as a result of changes in tribal staff responsibilities and turnover. In FY 2010, these federally-credentialed tribal inspectors contributed significantly to meeting the inspection requirements of the Energy Policy Act by completing 63 inspections. EPA anticipates at least two additional tribal staff will receive federal credentials in FY 2011.

In October 2009, the Miccosukee Tribe of Florida hosted our third annual tribal-EPA underground storage tank meeting in Miami, Florida. Meeting participants worked together to identify tribal issues, build relationships, and continue partnerships and improvements in the UST program in Indian country.

Increasing UST Facility Compliance

One of the key elements in preventing releases is to increase a facility's operational compliance with UST regulations. Significant operational compliance (SOC) means that a facility has the necessary equipment required by current UST regulations to prevent and detect releases **and** performs the necessary UST system operation and maintenance. In FY 2010:

- The **national SOC rate** was **68.6 percent**, which is 3 percent above our target rate, yet still allows room for continued improvement
- The **SOC rate in Indian country** was **67 percent**, which is a significant improvement over last year and rivals the national rate

In FY 2010, EPA provided \$32.4 million to states and territories for UST prevention activities. EPA also provided \$2.1 million for the UST prevention program in Indian country.

Addressing Alternative Fuels

In FY 2010, EPA continued developing draft guidance clarifying how tank owners and operators can demonstrate compliance with the federal compatibility requirement if they choose to store increased levels of biofuels. EPA requested comments on the [draft guidance, which was published in the November 17, 2010 Federal Register \(75 FR 70241\)](#). After considering public comments, EPA will issue final guidance in 2011.

EPA is partnering with the Department of Energy's Oak Ridge National Laboratory to quantify the impact of mid-level ethanol blends stored in existing tank systems. We are also working with Oak Ridge on a project supported by the Department of Energy to evaluate the material compatibility of USTs and dispenser materials with mid-level ethanol blends. We expect final reports for both projects in spring 2011.

In addition, we are working with EPA's Office of Research and Development (ORD) on a number of issues associated with increased biofuels use. ORD's Environmental Technology Verification program is conducting a test and quality assurance plan that evaluates automatic tank gauging systems in USTs storing ethanol-blended fuels. We are also working with ORD to understand the accelerated corrosion seen in UST sumps storing ethanol blends.

August 2010 - Five Years Of Progress Implementing The Energy Policy Act

When Congress passed the Energy Policy Act in August 2005, EPA, state, territorial, and tribal underground storage tank programs were presented with a mandate that focused on reducing UST releases and required numerous changes to tank programs. August 2010, the Energy Policy Act's fifth anniversary, was an important deadline: the first three year on-site inspection requirement for all active USTs. Almost all states successfully completed the inspection requirement by the deadline or soon thereafter. EPA or our tribal partners conducted inspections at nearly all UST sites in Indian country.

Over the past five years, EPA, states, territories, and tribes have shown tremendous dedication and made significant progress toward meeting all of the Act's requirements and strengthening UST release prevention programs.

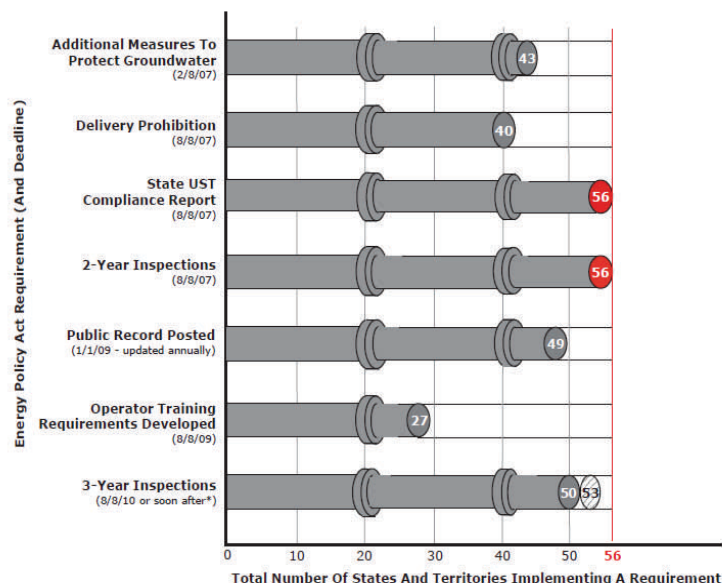
- All states have grant agreements in place to implement Energy Policy Act provisions
- Most states met these major requirements – secondary containment, delivery prohibition, state UST compliance report, initial two-year inspections, public record posted, and three-year inspections
- Together, EPA and tribes are continuing to implement the 2006 tribal strategy and further the goals of the UST program in Indian country

Although our collective progress over the past five years is impressive, state, territorial, and tribal UST programs are faced with a great deal of ongoing work to continue implementing the prevention requirements. The inspection requirement is a good example of this. States and territories did much to meet the three-year cycle of inspecting all 215,000 active UST facilities by August 2010; yet the three-year inspection cycle is a rolling three-year requirement continuing into the future. The operator training requirement is another example. By August 2012, states need to ensure operators are trained according to the operator training standards.

EPA and tribes are continuing to implement the tribal strategy's objectives and work to further the goals of the UST program in Indian country. Over the coming years, EPA and tribes will continue our ongoing work to increase compliance and cleanup rates in Indian country.

State, territorial, and tribal UST programs, working with EPA's regional UST programs, are undertaking the remaining prevention implementation challenges. We will work together and continue making strides to keep our land and groundwater safe from underground storage tank releases.

Number Of States And Territories Indicating They Have Implemented An Energy Policy Act UST Requirement (Of 56 States And Territories) August 8, 2010



* 50 states met the deadline; three more states met the requirement soon after it.



Inspecting beneath a dispenser

Helping Tribes Improve UST Facility Compliance

In 2009, EPA entered into a five-year assistance agreement with the [Inter Tribal Council of Arizona, Inc. \(ITCA\) for UST compliance assistance training](#) to tribal personnel and owners and operators in Indian country. The goal of this effort is to improve UST facility compliance throughout Indian country. In FY 2010, ITCA supported this goal by:

- Training approximately 150 tribal representatives in UST issues, such as: compliance with prevention regulations, overview of requirements, installations, and operation and maintenance
- Developing written resources about health and environmental hazards from USTs, operations and maintenance, and best management practices
- Fostering communication and opportunities for collaboration among tribes and EPA on UST issues

Advances In Cleaning Up Releases

For more than 25 years, the UST program has made great progress in cleaning up leaking underground storage tanks. EPA works with states, territories, and tribes to clean up LUST sites and address the hurdles in reducing the backlog of cleanups.

In FY 2010, EPA and our state, territorial, and tribal partners continued to make progress in cleaning up petroleum releases by completing 11,591 cleanups, of which 62 cleanups were in Indian country. The cleanup backlog, which is the difference between the cumulative number of confirmed releases and cleanups completed, also continued to decline from 161,997 sites a decade ago to 93,123 sites as reported at the end of FY 2010.

Cleanup Backlog Study Update

EPA made significant progress in its analysis of the backlog of leaking underground storage tank (LUST) releases. Our analysis is based on data submitted from 14 states, accounting for 67 percent of the 2006 national backlog. In the study, we look at several attributes of the releases in the backlog (for example: age, media affected, prioritization); how the 14 state cleanup programs function; challenges state programs faced; and potential opportunities to reduce the backlog. The goal of the study is to present a common basis for discussion about the backlog and then to serve as a basis for joint development of backlog reduction strategies between EPA and all our state and tribal partners.

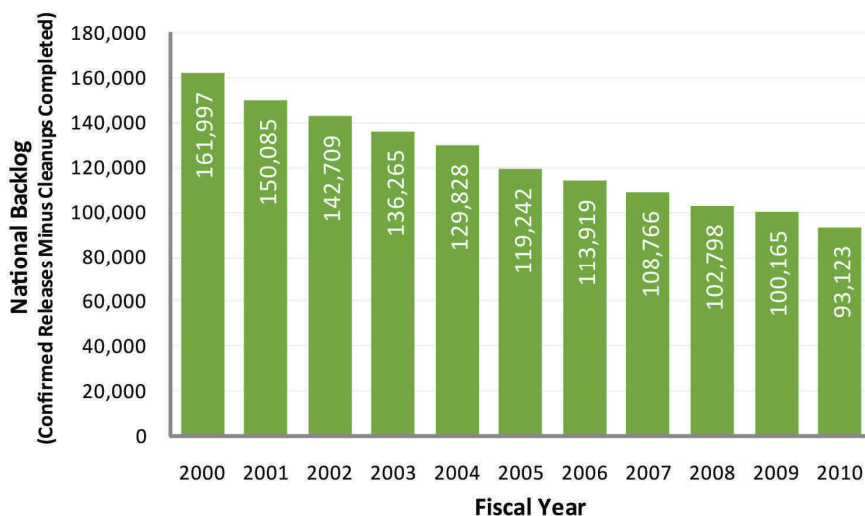
The study contains a national chapter and 14 individual state chapters. In September, EPA provided a draft of the national chapter to states for review and comment. We also distributed individual draft state chapters to each state for review, with comments due in December 2010. We intend to release the final report in summer 2011. Concurrent with completing the report, EPA will begin discussions with states and tribes on backlog reduction implementation strategies.

Continuing Cleanup Progress In Indian Country

EPA has primary responsibility for implementing the LUST program in Indian country and actively works with tribes to identify, assess, and clean up UST releases. In FY 2010, EPA exceeded its goal of 30 cleanups by completing 62 in Indian country, more than double the annual goal. Over the past seven years, the LUST cleanup backlog in Indian country has declined by about 31 percent. This success is partly a result of focused efforts to complete the remaining cleanups at older sites and the increased use of national and regional Indian country cleanup contracts. For nearly a decade, these contracts have been supported by LUST Trust Fund money and maintained by EPA for cleanup activities in Indian country. These contracts help: assess LUST Trust Fund eligible sites; design corrective action plans; and remediate contaminated sites.

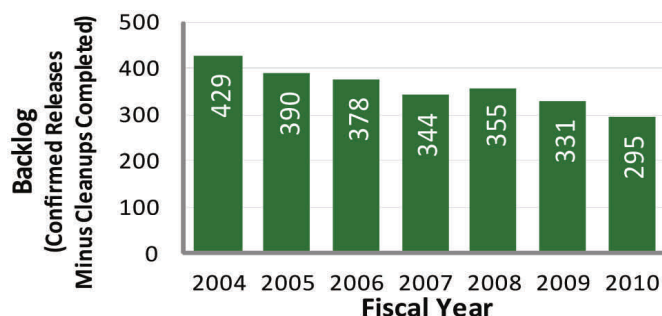
Looking to the future, EPA anticipates that completing cleanups and reducing the backlog of sites in Indian country will become more difficult. Some EPA regions are conducting comprehensive surveys to identify abandoned tanks; some of these tanks may have unreported releases that will add to the backlog of sites. Also, EPA is addressing more sites that require complex cleanups and take more time to complete. We will need to continue working diligently in order to reach our FY 2011 goal of completing 38 cleanups in Indian country.

National Cleanup Backlog



In FY 2010, EPA provided \$63.2 million to states and territories for LUST cleanups. EPA also provided \$3.1 million for LUST cleanups in Indian country.

Indian Country Cleanup Backlog



Solutions For Petroleum Brownfield Sites

The UST program continued to provide support to EPA's area-wide and community revitalization efforts. In FY 2010, we made significant progress on targeted geographic projects (corridors) and on investigating the reuse of petroleum sites for renewable energy projects.

Addressing Petroleum Sites Along Corridors

The UST program continued to foster cleaning up and reusing petroleum-contaminated sites along transportation corridors. EPA staff provided technical assistance and participated in workshops, meetings, and discussions throughout the year in support of petroleum brownfields corridor projects. For example:

- Region 4 UST and Brownfields programs and several other federal programs continued to promote and support remediation and revitalization efforts along two corridors – Alabama's Selma-to-Montgomery Civil Rights Trail and the Tamiami Trail in southern Florida
- Region 3 is providing technical assistance and working with state and county officials in Virginia to foster work at petroleum sites along Route 1 in Prince William County
- Region 9 hosted a kick-off meeting and provided an area-wide map of petroleum sites along California's Interstate 710 Corridor in Los Angeles

Reusing Petroleum Brownfields For Renewable Energy Projects

The UST program continued to explore with the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) important characteristics of siting alternative fuel stations at former gas stations. Converting these stations into alternative fuel stations may present opportunities that support our country's use of advanced vehicles, such as plug-in hybrid electric and all-electric vehicles. NREL plans to release study results in early 2011.

See [EPA's petroleum brownfields website](#).



Before - old gas station site; after - new firehouse in Trenton, New Jersey



EPA Recommends Investigating And Cleaning Up Lead Scavengers At LUST Sites

Although Congress banned lead in gasoline in the 1990s, lead levels and their associated additives still persist in the environment. Two additives, ethylene dibromide (EDB) and 1,2-dichloroethane (1,2-DCA), are probable human carcinogens. While there are established maximum contamination levels for EDB and 1,2-DCA, many state agencies that implement EPA's UST program do not routinely sample for these additives at legacy UST sites. A few states, however, demonstrated leadership by exploring concentrations of these constituents at their sites and worked with EPA on further technical evaluations. EPA scientists surveyed concentrations of EDB and 1,2-DCA at leaking UST sites. The study suggested that hazards from these additives remain at an unknown number of legacy spills of leaded gasoline. Based on this assessment, EPA in May 2010 [recommended state agencies monitor for EDB and 1,2-DCA at UST sites](#) where leaded motor fuels were or are presently stored and take appropriate action at those sites where these contaminants are found.



Conducting direct push soil sampling

LUST Recovery Act

American Recovery And Reinvestment Act Provided EPA With \$200 Million To Clean Up Underground Storage Tank Releases

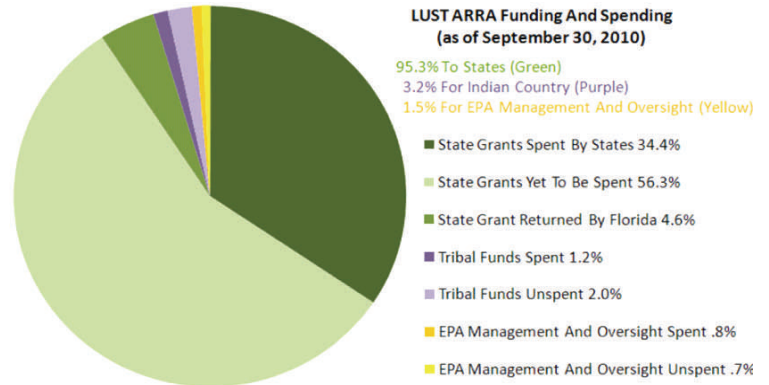
February 2010 marked the first anniversary of the American Recovery and Reinvestment Act of 2009, which provided \$200 million of LUST Trust Fund money to assess and clean up releases of contamination from federally-regulated USTs. This one time infusion of money is helping to increase the number of assessments and cleanups beyond those traditionally accomplished through annual appropriations.

[LUST Recovery Act money](#) is being used to assess and clean up eligible tank releases in states, territories, and in Indian country. In addition to providing environmental and economic benefits, these activities are also creating and retaining jobs. Through the end of FY 2010, states and territories spent approximately \$66.9 million of their LUST cooperative agreement money. Additionally EPA spent approximately \$2.3 million to help clean up tank releases in Indian country.

EPA gave states and territories discretion to spend LUST Recovery Act money on eligible projects, according to their needs. For example, some states are investing the money in assessments, providing states with information on the degree and extent of contamination at many small sites. Some states are using the money to close many small sites. Still other states are focusing efforts on a few difficult sites. EPA also provided states and territories with flexibility to use LUST Recovery Act money either directly at the site or indirectly by paying for state personnel to oversee activities.

States and territories are making significant progress in assessing and cleaning up LUST releases with LUST Recovery Act money. The chart below demonstrates the UST program's accomplishments and performance.

LUST Recovery Act Performance Measures	Cumulative Results 2/17/09 – 9/ 30/10
Site assessments initiated	780
Site assessments completed	642
Cleanups initiated	709
Cleanups completed	592



As of September 2010, LUST Recovery Act money was spent at 1,452 sites where one or more of the measures were achieved. In addition, LUST Recovery Act money contributed to other assessments and cleanups at an additional 2,222 sites which did not begin as Recovery Act projects and those that are not yet completed.

In 2010, EPA continued its work to clean up sites in Indian country using LUST Recovery Act money, which EPA allocated to existing cleanup contracts with Native Alaskan or Native American firms. This one time addition of money substantially increased EPA's ability to assess and clean up leaking underground storage tank sites in Indian country. The money is supporting work at approximately 50 sites in Indian country benefiting over 20 tribal communities.

By this time next year, most LUST Recovery Act grants will be completed, with just a few that are expected to need longer timeframes to complete. We have already seen great accomplishments from this infusion of money to the program and expect even more accomplishments in FY 2011.

EPA's interactive map shows LUST Recovery Act locations, performance data, and jobs information



LUST Recovery Act money is helping clean up this site in Washington, D.C.

Looking Ahead

FY 2010 was a year of advancement and achievement. UST partners achieved good progress toward meeting our goals and in advancing prevention and cleanup efforts. We also made meaningful strides assessing and cleaning up leaking UST sites using LUST Recovery Act money.

Challenges remain, though, as there is still much to be done to prevent releases and to clean up contaminated sites. In 2011 and upcoming years, EPA will focus on the traditional goals of the program — preventing and cleaning up releases — by:

- Continuing to work with states to meet the mandates and deadlines of the Energy Policy Act of 2005
- Implementing the LUST provision of the Recovery Act of 2009, providing support to states, territories, and tribes
- Working with tribes to continue implementing the tribal-EPA UST strategy
- Continuing the process to update our regulations
- Ensuring that each UST facility in the country is inspected once every three years
- Addressing technical and regulatory issues involved with alternative fuels
- Exploring better ways to identify compliance and cleanup solutions
- Developing strategies to help revitalize communities and clean up abandoned gas station sites
- Implementing strategies to reduce the cleanup backlog
- Bolstering the availability of adequate funding for cleanups
- Providing support on technical issues, such as identifying fuel constituents and evaluating exposure pathways

EPA looks forward to increasing collaboration and working with state, territorial, tribal, and other UST partners to achieve further progress in the tanks program. Our ultimate goal remains the same – protecting human health and the environment from petroleum releases.

Petroleum Vapor Intrusion

One of the UST program's continuing technical challenges is how best to address petroleum vapor intrusion (PVI) at LUST sites. In September 2009, EPA initiated a workgroup, comprised of state, federal, and industry members, to assess the state of science associated with PVI and provide input to assist federal and state programs as they pursue efficient, protective cleanups.

EPA is developing PVI guidance, which we expect will be available to states in November 2012. The objective of the PVI guidance is to provide site remedial managers with practical direction and information on assessing and investigating the vapor intrusion pathway from petroleum contamination at LUST sites. This guidance will include an overall decision framework to consider the iterative information produced through site assessments, site characteristics, and information generated through recommended vapor-specific inquiries.



Cleaning up an Indian country site in Santo Domingo Pueblo, New Mexico

Developing Regulations

EPA is revising the 1988 federal underground storage tank regulation to establish federal requirements similar to key portions of the 2005 Energy Policy Act provisions. These requirements will apply to USTs in Indian country and in states that do not have state program approval. We are also considering revisions to the existing requirements to increase protection of human health and the environment, as well as prevent UST releases and detect them quickly, if they occur. Potential changes include:

- Adding secondary containment requirements for new and replaced USTs and piping
- Adding operator training requirements for UST system owners and operators
- Adding periodic operation and maintenance requirements for UST systems
- Removing certain deferrals
- Adding new release prevention and detection technologies
- Updating codes of practice
- Making editorial and technical corrections
- Updating state program approval requirements to incorporate these new changes

In 2010, we worked closely with states, tribes, industry, and other stakeholders in developing the proposed regulation. In summer 2011, we intend to publish a proposed regulation in the *Federal Register*, followed by a final regulation that will carry the UST program into the future.

A Letter To UST Stakeholders From Carolyn Hoskinson, Director EPA's Office of Underground Storage Tanks

I think the adage by Hal Borland, an American author and journalist, aptly describes FY 2010 in the UST program – “Year’s end is neither an end nor a beginning but a going on, with all the wisdom that experience can instill in us.” In FY 2010, we gained much experience implementing the LUST Recovery Act; we learned a great deal from our stakeholders as we continued revising the federal UST regulations; and we used our wisdom and experience as we continued to implement Energy Policy Act requirements.

FY 2010 was productive for the UST program. February 2010 marked the one year anniversary of the American Reinvestment and Recovery Act, which provided authority and money to assess and clean up underground storage tank leaks in states, territories, and Indian country. August 2010 marked the fifth anniversary of the Energy Policy Act and the first three-year on-site inspection requirement for all active USTs. September 2010 found UST program stakeholders gathering in Boston for our 22nd annual conference that boasted the largest attendance ever. All of these milestones, along with our routine work, showcase the positive relationships of our UST partners and how we work closely and cooperatively to achieve so much.

I acknowledge that some state and territorial UST programs struggled during 2010. I understand full well that many of you dealt with budget reductions and staff layoffs. Yet despite these challenges, UST programs persevered with energy and achieved much. As of September 2010, EPA and our UST partners closed over 1.7 million tanks; cleaned up more than 401,000 petroleum leaks; and reduced the number of new releases from a high of almost 67,000 in 1990 to approximately 6,300 in 2010. Today, tank systems are much less likely to leak and cause significant environmental problems.

Irrespective of these accomplishments, many challenges still remain for the national UST program. The remaining 597,000 active, federally-regulated tanks must be inspected every three years. All tank operators must be trained according to established standards. The backlog of just over 93,000 releases needs to be addressed. We must continue to ensure, in an accountable and transparent manner, that LUST Recovery Act money is used appropriately and expeditiously to assess and clean up UST releases.

Thank you to all our UST partners for your efforts to protect our environment and human health from underground storage tank releases. Your work and dedication made 2010 a momentous year. I look forward to working with you over the next year.



Community Engagement And The UST Program

In December 2009, EPA's Office of Solid Waste and Emergency Response (OSWER) launched its [Community Engagement Initiative \(CEI\)](#), to encourage stakeholders' meaningful participation in government decisions regarding land cleanup, emergency preparedness and response, and hazardous substances and wastes management. In May 2010, [OSWER issued its implementation plan](#), which outlined specific actions to achieve the CEI's goals and objectives. As part of this plan, EPA's Office of Underground Storage Tanks (OUST) is working with state implementing agencies and EPA regional programs to meet these commitments:

- Review and analyze a sample of states' community engagement policies or processes and EPA's community engagement processes in Indian country
- Determine the extent to which those processes enhance transparency, produce outcomes that are responsive to community concerns, commensurate to the circumstances of a release, and align with community needs and long-term goals
- Create and sustain an ongoing dialogue with regions, states, and tribes to promote and support effective community engagement processes

You can track [OUST's CEI efforts](#).

To keep the public informed, EPA posts mid and end of year activity reports that provide information on compliance, releases, and cleanups across the country. See the [FY 2010 end of year activity report](#).