

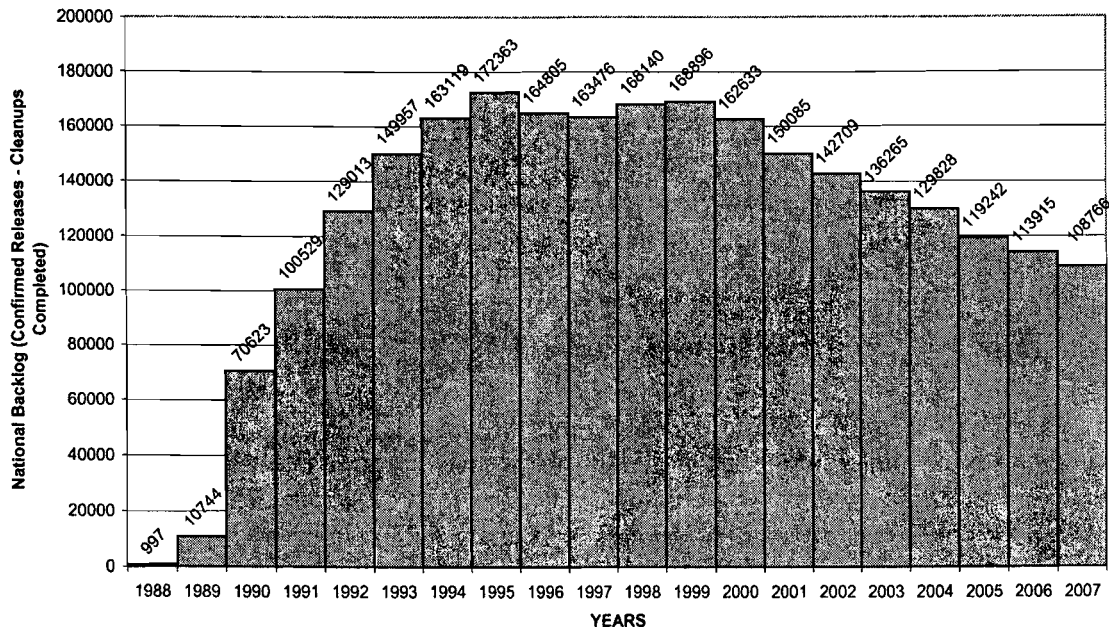
Addressing the Cleanup Backlog Phase 2 Study

Although great progress has been made historically in cleaning up leaking underground storage tanks, the rate of progress has slowed and the backlog remains sizable. This paper describes Phase Two of an initiative by EPA's Office of Underground Storage Tanks (OUST) to explore the characteristics of the remaining backlog sites and to develop national and state-specific strategies for addressing the cleanup backlog. This effort will also help evaluate national performance goals for annual cleanups and recalibrate such goals based on an increased understanding of the cleanup universe. Moreover, state participation in the Phase 2 study will significantly help inform the national debate on GPRC cleanup goals. Finally, by more completely understanding the challenges impeding cleanups, EPA and states can help develop strategies leading to more timely remediation.

Introduction

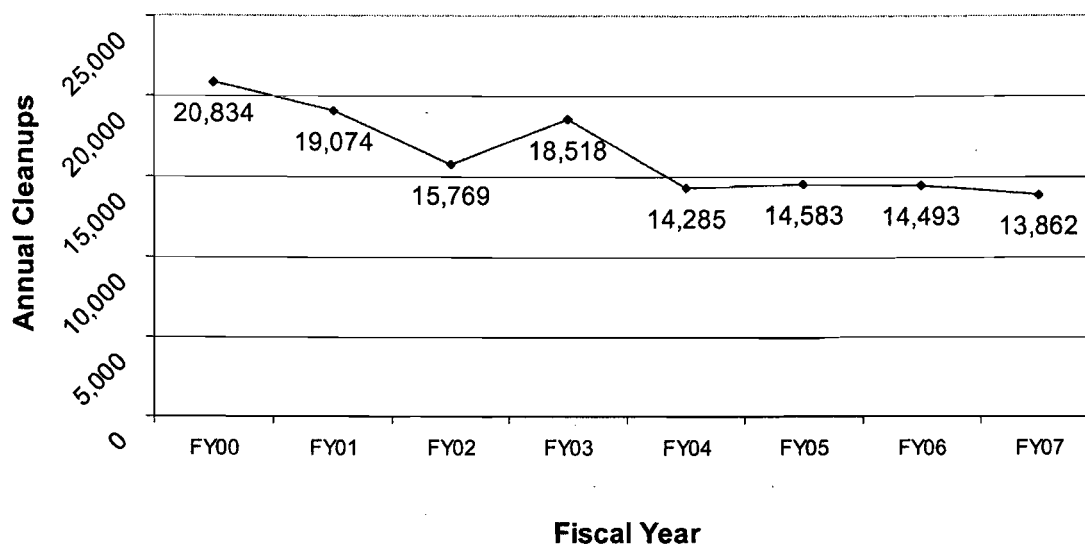
Since the mid-1990's, the cleanup backlog has been consistently declining from a high of 171,795 sites in 1995 to 108,766 as reported at the end of the 2007 fiscal year. The backlog represents the difference between the cumulative number of cleanups completed and confirmed releases.

**UST National Backlog:
FY 1989 Thru End-of-Year FY 2007**



Although we are making great progress in reducing the backlog, the number of cleanups being completed each year is declining. Since 2000, the number of cleanups completed has dropped from a high of 20,834 in 2000 to 13,862 last year.

Actual Cleanups Completed Since FY2000



Recognizing this downward trend in completing cleanups, five years ago, OUST working with a handful of states completed the first serious attempt to characterize the cleanup backlog so that we could set more realistic GPRA goals. While offering only a limited level of detail, this analysis provided the rationale to lower the annual GPRA goals from over 18,000 cleanups annually, to 14,500 for FY05, 13,600 for FY06 and 13,000 for FY07 and FY08. And while the program has met our national goal in each of the last three fiscal years, continuing to cleanup sites at the current pace is getting more difficult.

Phase 1 Snap Shot

As a result, last year OUST began an effort to collect and analyze additional data to more accurately characterize the cleanup backlog in order to better understand the reasons for the decline in cleanups and develop strategies to at least slow if not reverse this trend. This effort was designed to be completed in two phases. In phase 1, some limited information from state data bases shed some light on the age, ownership and geographic distribution of sites in the backlog. In addition, the program got a broad sense of which media (groundwater or soil) were primarily affected from the confirmed releases. From the Phase 1 effort we now know that:

review
Phase 1
audit

- About two thirds of the national backlog is concentrated in 10 states.
- More than half (54%) of all the sites in the backlog are over 10 years old.
- Many sites in the backlog only have soil contamination and about 40% of these sites have been in the backlog for 10 or more years.
- Many sites in the backlog are either owned by or affiliated with a few "brand name" companies.

Although the information collected during Phase 1 is very limited, it does suggest that by focusing on older sites, soil contaminated sites, or brand name companies, there may be opportunities for developing targeted strategies for addressing the backlog. In addition, by getting a more complete understanding of the reasons for the decline in cleanups, whether it's due to resource limitations, legal and technical impediments, or program management challenges, we can better focus our future efforts to more effectively address the backlog.

Phase 2 Study

Perhaps the most important finding from Phase 1 was the recognition that the program does not have sufficient information at this time to answer three key questions:

- What specific strategies can EPA and states use to increase the pace of cleanups?
- At what number should EPA set our GPRA goal for completed cleanups?
- Is there a better measure that EPA could use for our GPRA goal?

Phase 2 will help to answer these three questions. In Phase 2, OUST expects to better, more completely characterize the cleanup backlog and, working with states, develop national and state-specific strategies for completing more cleanups as well as evaluating the appropriateness of our existing GPRA measure.

The Phase 2 initiative will be divided into the following parts:

Part 1: Identify states to participate in Phase 2 study (Winter 2008).

Part 2: Further characterize backlog for identified states (Spring/Summer 2008).

Part 3: Develop national and state-specific strategies to overcome obstacles and accelerate cleanup (Fall 2008).

Part 4: Implement strategy and revise as necessary (on-going)

Part 1: Identify states to participate (Winter 2008)

While inviting every state to participate in Phase 2 would give us comprehensive information, given resource and time constraints this is not possible, nor do we believe necessary. Using the information gathered in Phase 1, we can identify and focus our Phase 2 initiative on those states contributing the most to the backlog, i.e. those with the most opportunity for cleanups.

For example by focusing on the top ten states that contribute to the cleanup backlog we can address almost two-thirds of the 2006 backlog (62% of 113,914). Additionally, by also focusing on the state in each region that contributes the most to their regional backlog we can get a more complete cross section of states. These four additional states cover an additional 6% of the backlog. This grouping would target the following states:

Potential State Partners for Phase 2

State (Region)	State Rank (%) *		State (Region)	State Rank (%) *
California (R9)	2 (12%)		New Jersey (R2)	6 (4%)
Florida (R4)	1 (13%)		New York (R2)	10 (3%)
Illinois (R5)	4 (7%)		North Carolina (R4)	5 (6%)
Massachusetts (R1)	29 (1%)		Pennsylvania (R3)	7 (3%)
Michigan (R5)	3 (8%)		South Carolina (R4)	9 (3%)
Montana (R8)	25 (1%)		Texas (R6)	8 (3%)
Nebraska(R7)	16 (2%)		Washington (R10)	17 (2%)

* Represents State's national rank among the 50 States and the percentage reflects the percentage of sites relative to the national backlog of 113, 915 Source: 2006 EOY Activity Report
http://www.epa.gov/oust/cat/ca_06_34.pdf

The participation of such state partners is, of course, entirely voluntary and OUST is open to working with additional and alternate states that express interest in being part of Phase 2, including states that have made an efforts to explore their own backlog. Beginning this winter, OUST and EPA regional offices will engage states to find willing participants for the Phase 2 initiative.

Part 2: Further characterize backlog for identified states (Spring/Summer 2008)

In Part 2, the goal is to characterize the cleanup backlog in a state by age, location, type of contamination and other site attributes. The table below provides an illustration of different attributes that may be useful for characterizing a state's backlog. Although each state will have a different mix of sites in their backlog, by grouping the sites into these and other attributes, EPA and states may be better able to identify the reasons for cleanup challenges and possible solutions.

Site Attribute	Description
Age	Number of years since reported release date
Site Ownership / Affiliation	Number of sites identified by a particular owner or affiliation (private, government)
Site location	Number of sites in source water areas, EJ communities, regional clusters
Type of Contamination	Number of sites with groundwater or soil contamination
Orphan site	Number of sites with no known or viable Potentially Responsible Parties and/or not covered by state fund
Recalcitrant party	Number of sites with orders issued
Type of Remediation	Number of sites with short-term or extended cleanup approaches, for example, active groundwater remediation (pump & treat) or monitored natural attenuation (MNA).
Funding needs	Number of sites without financial assurance or sufficient funding

Part 3: Develop national and state-specific strategies to overcome obstacles and accelerate cleanups (Fall 2008).

In Part 3, the goal is to develop strategies for addressing the backlog. By bringing together a more complete profile of the backlog along with the knowledge and experience of state officials, EPA and states should be able to develop both national and state-specific strategies. The following table illustrates how EPA and states may be able to develop workable strategies and solutions for different site attributes.

Site Attributes	Significance of Site Attributes	Possible Strategies:
Age of Site	Old site (>15 years old)	Develop cleanup schedules Use triage or optimization tools
Type of Contamination	Sites with soil only contamination	Provide assistance to close out sites
Type of Remediation	Sites in monitored natural attenuation	Develop schedules and funding needs. Create separate reporting category for sites in MNA
Site Ownership/Affiliation	Sites with the same owner or "brand" affiliation	Use multi-site cleanup agreements
Orphan Site	Sites with no viable PRP and no financial assurance	Set aside specific funding for orphan sites
Recalcitrant Party	Sites with orders violated or recalcitrant PRPs	Take enforcement action

Although there will not likely be a single strategy that will work everywhere, if a large number of sites in a state's backlog share the same attribute then it may be possible to develop a strategy for that category of sites and thereby make better progress in reducing the backlog.

For example, as the table illustrates, if a state determines that a large number of sites have been in the backlog for many years, then a state strategy may involve further characterization of these older sites to determine the reasons for the delay. If it involves groundwater contamination, the state may decide to use triage, pump & treat optimization, and other tools, and the state may decide to develop a cleanup schedule for moving the site forward. If for example, sites are not moving forward because of recalcitrant PRPs, then enforcement action may be appropriate. Similarly, if a large number of sites in a state's backlog only have soil contamination, then additional assistance from EPA to help close out these sites may be appropriate. Or if there are "orphan sites" in a state's backlog, then setting aside specific LUST funding for these sites may be an appropriate strategy.

Part 4: Implement strategy and revise as necessary (on-going)

A successful effort requires aggressive implementation. This requires understanding the dominant attributes of the backlog in a particular state, identifying specific strategies and roles for states and EPA, and establishing timeframes and milestones for carrying out the specific actions. In addition, reporting progress on a regular basis will help keep efforts on track and help us communicate and document the insights and progress states are making on their backlogs.

Detailed Schedule for Phase 2 Backlog Study

Part 1: Identify States to participate (Winter 2008)

- Prepare for Discussions With Regions And States
 - Distribute Phase 2 cleanup backlog study proposal to Regions
 - Schedule Regional Calls
- Discussion of State Participants
 - Convene Initial Regional Calls to discuss
 - Expectations (Staff time, resources, contractors)
 - Identification of States, Contacts, Data and Expertise
 - Strategies to Work Most Effectively with States
 - Schedule and Convene State Calls to discuss
 - Expectations and Commitment (Staff time, resources, contractors)
 - Identification of Contacts, Data and Expertise
 - State-specific approaches and schedule to pursue Phase 2

Part 2: Further characterize backlog for identified States (Spring/Summer 2008)

- Outlining State-Specific Approach
 - Conduct calls with participating states to discuss and agree upon site attributes to be included in state-specific analysis
 - Develop a data matrix template for each state and identify database fields and files where site attribute information is available
 - Explore use of cohort analysis to evaluate speed of cleanups over time
- Data Collection
 - Engage States and direct contractor to fill data needs related to site attributes of interest
 - OUST contractor (and/or staff) site visits to participating states to gather relevant site attribute information from state data files and databases
 - OUST (contractor) populate data matrix for participating states
- Data Analysis and Discussion
 - Circulate populated state-specific data matrices and initiate conference calls with participating states to discuss and refine information and add additional non-quantifiable attributes
 - Begin evaluation of the adequacy of the national performance goals

Part 3: Develop national and state-specific strategies to overcome obstacles and accelerate cleanups (Fall 2008)

- Work with each participating state to identify state-specific strategies for addressing significant attributes in backlog
- Work with regions to identify national strategies for addressing backlog
- Work with each participating state (and region) to develop schedule for implementing state-specific strategies
- Develop schedules for implementing national strategies

Part 4: Implement strategy and revise as necessary (on-going)