



State of Oregon
Department of
Environmental
Quality

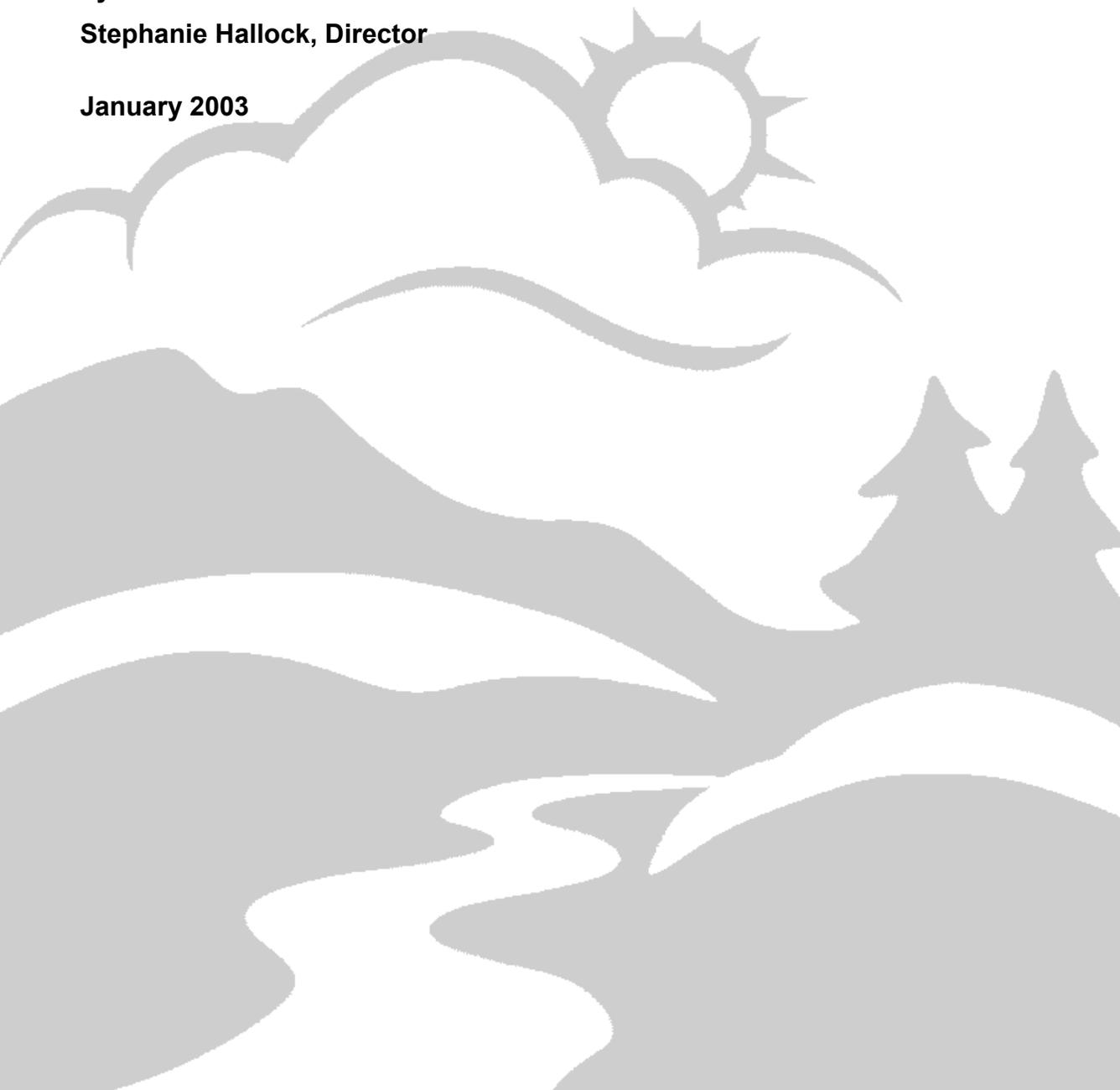
14th Annual Environmental Cleanup Report

Submitted to:

**Governor Ted Kulongoski
Oregon Legislative Assembly
Environmental Quality Commission**

**by
Stephanie Hallock, Director**

January 2003



ORS 465.235 (4):

“On or before January 15 of each year, the department shall submit the inventory and a report to the Governor, the Legislative Assembly and the Environmental Quality Commission. The annual report shall include a quantitative and narrative summary of the department’s accomplishments during the previous fiscal year and the department’s goals for the current fiscal year . . .”

As required by law, this report provides information about DEQ’s Environmental Cleanup Program. It also includes information about cleanups of spills and leaking underground storage tanks, both of which are conducted under separate statutory authority. The descriptions and statistics presented in this report refer only to the Environmental Cleanup Program and not to tank cleanups or spills, unless otherwise indicated. Figures are current through November 30, 2002.

Copies of the Inventory (which runs about 70 pages) are available upon request. The Inventory can also be viewed on DEQ’s web site at:
<http://www.deq.state.or.us/wmc/cleanup/crl-list.htm>

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Executive Summary

Introduction

The Department of Environmental Quality (DEQ) is required by statute (ORS 465.235) to report annually to the Legislature, the Governor and the Environmental Quality Commission on DEQ's Environmental Cleanup Program. The purpose of this report is to identify cleanup accomplishments from the previous fiscal year; forecast activities for the current fiscal year; report on the status of DEQ's Environmental Cleanup Program; and update the four-year Environmental Cleanup Program Plan.

The report's primary focus is on DEQ's Environmental Cleanup Program. Additional information is provided about cleanups of leaking underground storage tanks (including heating oil tanks) and cleanups of spills, both of which are conducted under separate statutory authority.

Highlights

This report includes:

- Statistics on Environmental Cleanup Program activities in fiscal year 2002;
- Descriptions of Environmental Cleanup Program components;
- Descriptions of new and revised rules adopted in calendar year 2002;
- Descriptions of internal changes and cross-program activities within the Environmental Cleanup Program;
- The 2003-2007 Environmental Cleanup Program Plan; and
- The Legislature's approved 2001-03 budget for the Environmental Cleanup Program.

Accomplishments – Fiscal Year 2002

In the fiscal year ending June 2002, DEQ's Environmental Cleanup Program completed investigations and cleanups at 68 sites across Oregon. Since the Environmental Cleanup Law was passed in 1987, "no further action" determinations have been made at 755 sites. DEQ is currently investigating and cleaning up about 470 sites in Oregon.

In addition to the 68 cleanups completed by the Environmental Cleanup Program, 2735 underground storage tank (UST) cleanups were completed in accordance with DEQ's UST rules. Of these, 410 were regulated petroleum fuel tanks typically located at gasoline stations. The other 2325 were heating oil tanks that were decommissioned and cleaned up by licensed contractors.

Program Changes and Improvements

In 2002, rules were written or updated in the following areas:

- An initial set of rules was promulgated for dry cleaning facilities. A new division was added to the Oregon Administrative Rules (OAR), and three existing Hazardous Waste rule divisions were modified.
- DEQ updated the Emergency Response rules.
- DEQ drafted one new Underground Storage Tank rule and revised four existing rules.

These rule changes, at least in part, were directed or required by the 2001 Legislature and focused on needed environmental protection and providing more flexibility in working with businesses.

Major Projects and Initiatives

- DEQ is cooperating with other state and federal agencies to address environmental and health problems associated with abandoned mines. DEQ is proposing to use Orphan Site Account funds in 2003-05 to initiate work on several newly identified abandoned mine sites.
- DEQ is taking a broader look at cross-program work, initially focusing on abandoned mines, contaminated sediments, and persistent bioaccumulative toxins.
- Environmental Cleanup Program staff held a series of meetings with an external workgroup to develop guidance in estimating risks from Total Petroleum Hydrocarbon contamination.

Budget Status

In 2001, the Legislature passed all the fee increases requested for DEQ's Environmental Cleanup Program. Revenues from hazardous substance disposal fees, however, have declined significantly over the past 18 months. These fees fund basic administrative costs of the Environmental Cleanup Program. The Legislature also approved a General Fund appropriation to fund a \$4 million bond sale for DEQ's Orphan Site Account to fund cleanup work. For 2003-05, DEQ is requesting an additional bond sale to focus on continuing work at existing industrial orphan sites and initiating work at newly identified abandoned mine sites.

For More Information

More information about many of the items covered in this report is available from the Land Quality section of DEQ's web site, DEQ Online: <http://www.deq.state.or.us/wmc/index.htm>. Information can be found under the Emergency Response, Environmental Cleanup, and Underground Storage Tank headings.

Accomplishments – Fiscal Year 2002

Sites Discovered

DEQ has identified approximately 2900 contaminated and potentially-contaminated sites in Oregon since 1988. 132 new sites were identified in Fiscal Year 2002 (FY 2002). These sites were all added to DEQ's Environmental Cleanup Site Information System (ECSI) for tracking purposes.

Sites on the Confirmed Release List

Of the approximately 2900 sites recorded in ECSI, 585 have been added to the Confirmed Release List (CRL). The CRL is a list of sites where the presence of contamination has actually been confirmed (rather than just being suspected). 56 sites were added to the CRL in FY 2002. Thirteen (13) other sites were removed, or "delisted", from the CRL in FY 2002. (Sites are delisted when contamination at the site has been eliminated or reduced to levels that pose no significant threat to human health or the environment).

Sites on the Inventory

The Inventory of Hazardous Substance Sites is a list of sites where contamination has been confirmed and where further investigation or cleanup is necessary. 343 sites are currently listed on the Inventory. Of those, 49 sites were added in FY 2002. Six (6) other sites were delisted from the Inventory in FY 2002 after they were cleaned up. All sites on the Inventory are also on the CRL.

Removals

At sites where contamination is fairly extensive, and the best method for cleaning up the contamination is not in dispute, a removal may take place. A removal is essentially a cleanup action that occurs before a Remedial Investigation or Feasibility Study has been completed. Nine (9) removals were initiated under DEQ supervision in FY 2002, and four (4) removals were completed. Since some removal actions may take months or

The Cleanup Process in Oregon

Sites where a hazardous substance is suspected to have been released are **evaluated** by DEQ to determine their priority for further action. If a release appears to have occurred, a **preliminary assessment** may be conducted to confirm or deny the presence of contamination. A **site investigation** may also be conducted to delineate the extent of the contamination. However, if an emergency situation exists, a **removal action** may be necessary to stabilize the site before any investigations occur.

Sites that are known to be contaminated proceed through a three-step investigation process to determine how (or whether) they are to be cleaned up. A **remedial investigation** is performed to determine the full nature and extent of the contamination. A **risk assessment** looks at the threats posed by the contamination to human health and the environment. Finally, a **feasibility study** evaluates various options for cleaning up the site. From this information, a determination is made as to whether the site needs to be remediated, and if so, how it should be remediated. A **removal action** may be conducted at any time during this process to quickly reduce the amount of contamination.

For sites where the necessary cleanup is relatively straightforward and simple, an initial removal action may be all that is required. However, if the cleanup will be more difficult and complex, a formal cleanup decision (called a **Record of Decision**) will be adopted by DEQ after a public comment period. The resulting cleanup is referred to as a **remedial action**. In addition to (or instead of) removing or eliminating the contamination, an **engineering control** (such as a cap or fencing) may be put in place to isolate the contamination. Or an **institutional control** may be recorded to limit future activities at the site so that people don't come into contact with the contamination.

A site receives a **No Further Action** designation when DEQ determines that it poses no significant threat to human health or the environment. This may occur at any point during the investigation and cleanup process.

years to complete (such as extracting contaminated groundwater), the removal actions that were completed in FY 2002 may be different from the removals that were started.

Preliminary Assessments

A Preliminary Assessment is an investigation of a site and its surrounding area. The history of a site is reviewed to determine whether any contamination is likely to be present. Certain characteristics of the surrounding area (population and land use, nearby streams, depth to groundwater, etc.) are also reviewed to determine the likelihood of any contamination migrating off of the site. All of this information is used to determine whether the site is a high, medium, or low priority for further investigation and cleanup by DEQ.

Preliminary Assessments were initiated by DEQ or other parties at 65 sites in FY 2002, and 56 assessments were completed in the same year. Because Preliminary Assessments generally take only a few months to complete, the majority of assessments started in FY 2002 were also completed in FY 2002.

Remedial Investigations

A Remedial Investigation is a detailed examination of a site to determine the nature and extent of the contamination. Extensive sampling is conducted to determine what contaminants are present, where the contaminants are located, and how concentrated they are. The investigation also includes a detailed assessment of the risks to human health and the environment posed by the contamination. The investigations are reviewed and approved by DEQ. Twelve (12) Remedial Investigations were initiated in FY 2002, and nine (9) were completed. Because Remedial Investigations often take more than a year to complete, the investigations that were started are generally not the same investigations that were completed.

Feasibility Studies

Feasibility Studies are conducted to evaluate various methods of cleaning up a site. Because various approaches or technologies can be used to clean up a site, each is evaluated for effectiveness, protectiveness, and cost, among other criteria. A preferred

Routes to Cleanup in Oregon

The Environmental Cleanup Program has many components to help owners and operators of contaminated property move through the investigation and cleanup process. One of the most popular options is **Voluntary Cleanup**. Willing parties and their contractors essentially hire DEQ staff to oversee their projects, to ensure that their work meets all appropriate requirements. Parties can choose the standard Voluntary Cleanup approach or an Independent Cleanup approach, depending on the amount of oversight they wish to receive.

DEQ also “discovers” contaminated properties through **Site Assessment**. DEQ learns about potential contamination from phoned-in complaints, unsolicited reports, and from other government agencies, in addition to conducting its own inquiries. Sites are evaluated and ranked according to their potential threats. Responsible parties are often encouraged to address their contamination through Voluntary Cleanup.

If a site is a high priority, however, it may not be prudent for DEQ to wait for the responsible parties to take action. DEQ can require cleanups to be conducted through **Site Response**. (Parties can also voluntarily enter Site Response if they want to conduct their cleanup under a legally-enforceable order or decree). If no responsible parties are able or willing to clean up a high priority site, DEQ may designate the site as an **Orphan Site** and conduct the cleanup using funds from the Orphan Site Account. **Dry Cleaner** sites are also addressed through their own separate account.

Other types of cleanups are conducted under separate statutory authority. Hazardous materials spills are cleaned up through **Emergency Response**. Releases of petroleum from regulated **Underground Storage Tanks** are likewise addressed through their own separate program.

option is then chosen and recommended as the final cleanup strategy. Nine (9) Feasibility Studies were initiated in FY 2002, and ten (10) were completed. Because Feasibility Studies often take more than a year to complete, the studies that were started are generally not the same studies that were completed.

Records of Decision

A Record of Decision (ROD) is a final cleanup decision on a site, signed by both DEQ and the responsible parties. The ROD incorporates information from the Remedial Investigation and Feasibility Study to summarize the nature and extent of contamination at the site, the risks posed by that contamination, and the agreed-upon method for addressing the contamination. Eight (8) Records of Decision were initiated in FY 2002, and nine (9) were completed. It generally takes several months for a ROD to be written, released for public comment, and approved.

Remedial Actions

A Remedial Action is the final cleanup action taken at a site. A Remedial Action may involve actually eliminating contamination from a site, or it may involve isolating the contamination through institutional controls (deed restrictions, etc.) or engineering controls (caps, fencing, barrier walls, etc.). Eleven (11) Remedial Actions were initiated in FY 2002. Only seven (7) Remedial Actions were completed. This is largely because institutional and engineering controls are never really “completed”. They are intended to remain in place indefinitely.

No Further Actions

DEQ will issue a No Further Action (NFA) letter to the responsible parties when the agency concludes that a site no longer poses a substantial threat to human health or the environment and no further investigation or cleanup is necessary. This may occur at any point in the process. DEQ’s Environmental Cleanup Program has issued over 750 NFA letters since work began in 1988. In other words, DEQ has “signed-off” on 25% of the 2900 sites in the ECSI database. 68 sites were issued No Further Action letters in FY 2002 after being investigated and/or cleaned up.

Program Changes and Improvements

Brownfields

A brownfield is a vacant or underutilized property where expansion or redevelopment is complicated by actual or perceived environmental contamination. These sites are often community eyesores where there is pressure to “do something”, but the fear of high costs associated with cleaning up contaminated property keeps potential developers at bay. DEQ’s Brownfields effort emerged from a cross-program workgroup in 1996 in response to requests from local communities and prospective purchasers to provide assistance in investigating and cleaning up these abandoned sites.

DEQ strives to work with communities, public organizations, government agencies, and private parties to facilitate and encourage the redevelopment of brownfields. For example, the program works with staff from the Oregon Economic and Community Development Department (OECDD) to find state and federal funding sources that can be tapped to investigate and/or clean up brownfields. Recently, the Brownfields Program has been working with the City of Portland and Clackamas County on adding DEQ’s information on known contaminated sites to the city and county’s land use databases. Brownfields redevelopment is also an integral part of the mission of the Community Solutions Teams (CST), of which DEQ is a member.

In 1999, DEQ helped create (and has since co-sponsored) the Annual Oregon Brownfields Conference, where local community leaders and developers learn from brownfields experts how to redevelop potentially contaminated land. The 3rd Annual Conference was held October 8-9, 2001 in Bend and drew over 120 participants. The 4th Annual Conference was held September 5-6, 2002 in Portland and drew 190 participants. In 2003, the National Brownfields Conference, co-sponsored by EPA, will be held in Portland, likely drawing close to 3,000 participants.

Brownfields redevelopment projects in Oregon that DEQ has been involved with have been regional winners of the national “Phoenix Awards” for three years in a row. The Phoenix Awards recognize outstanding brownfields redevelopment projects across the country. The Yards at Union Station housing development in Portland won in 2000, and the redevelopment of the Astoria Plywood Mill into Mill Pond Village won in 2001. The Old Mill District in Bend is the winner for 2002. The Old Mill District covered 250 acres along the Deschutes River south of downtown Bend, and was the site of an active lumber mill from 1922 to 1994. When the mill went out of business, River Bend LP purchased the property for redevelopment. Working with DEQ, the site was investigated and cleaned up in sections, thus allowing redevelopment to occur in stages. The formerly vacant industrial property has now been largely transformed into a mixed commercial and residential development.

USTfields Pilot Projects

In October 2000, the EPA Office of Underground Storage Tanks awarded DEQ approximately \$100,000 as one of ten nationwide “USTfields” pilot projects. An USTfield is a brownfield with petroleum contamination from leaking underground storage tanks (LUSTs). Petroleum contamination is generally excluded from traditional brownfields funding sources. DEQ used the USTfields funding to investigate three (3) abandoned sites in Oregon that were potentially contaminated from LUSTs.

The REACH Project

A former retail service station and grocery market at 1949 SE Division Street in Portland was acquired by Multnomah County through tax foreclosure in 1998. Underground storage tanks and some 250 tons of petroleum-contaminated soil had been removed from the site in 1994, but additional contaminated soil was known to have been left behind. Multnomah County offered the property to non-profit housing developers through a competitive process, and REACH Community Development, Inc. was selected. REACH proposed developing a two- to three-story apartment building at the site with 10-15 units to accommodate people with physical disabilities. However, the unknown amount of contamination remaining at the site hindered redevelopment. DEQ used the USTfields Pilot money to investigate the site and remove the uncertainty surrounding the contamination.

General Farm Supply

The General Farm Supply property at 879 Elm Street in Baker City was acquired by Baker County through tax foreclosure in the late 1990s. In addition to the farm supply store, a service station had operated at the site. Although the county encouraged redevelopment of the property, developers were unwilling to take ownership because of the potential for contamination from leaking underground fuel storage tanks. DEQ used the USTfields Pilot money to hire a local contractor to remove three (3) underground storage tanks and determine the extent of contamination at the site. This information will remove the uncertainty for developers and should make it easier to negotiate a purchase and redevelopment.

Eagle Point Garage

The Eagle Point Garage was a service station and auto repair shop at 107 West Main Street in Eagle Point, a small town north of Medford. The Garage was a local landmark from the 1930s through the 1990s. After the last underground storage tanks were removed in 1999, the building fell into disrepair. The dilapidated appearance of the property and the unknown extent of contamination became an impediment to revitalization efforts in the community. Redevelopment of an adjacent property was put on hold by the lender and investors until the Eagle Point Garage could be torn down and the nature and extent of possible contamination determined. DEQ determined that the owner of the Garage had no ability to pay for an environmental assessment of the property, so DEQ used money from the USTfields Pilot project to conduct the investigation. The owner was able to leverage private funds to demolish the Garage. With the Garage removed and the uncertainties surrounding the potential contamination resolved, redevelopment can proceed in the area.

Dry Cleaners

The 1995 Legislature implemented a separate waste minimization and cleanup regimen for dry cleaning facilities in Oregon. The law requires all dry cleaners to implement hazardous waste management practices designed to eliminate future releases of dry cleaning solvents to the environment. In addition, all dry cleaners pay into a fund that is used for cleaning up contamination at sites where solvents were released due to past practices. Paying into the fund shields individual dry cleaning owners and operators from liability arising from contamination at their site. In essence, the fund acts as an insurance policy against individual cleanup liability.

The various fees paid into the fund were initially intended to raise \$1 million per year. In practice, however, revenue collections fell far short of that. In 2001 the dry cleaning industry, supported by DEQ, presented a plan to the Legislature to revise the fee structure and clarify some requirements in the original law. The proposed changes were passed by the Legislature, and new rules for the dry cleaning industry were adopted in 2002 (see box).

Emergency Response

Under Oregon's Emergency Response Plan, DEQ is the lead state agency for managing the cleanup of hazardous chemicals and oil from overturned tanker trucks and railcars, ships that run aground, etc. DEQ also provides technical advice to police and fire departments that are first on the scene. To meet its response requirements, DEQ has three (3) full-time, regionally located, State On-Scene Coordinators trained in hazardous material and oil spill response. DEQ also maintains a 24-hour on-call duty officer to respond to emergencies.

Prevention and preparedness are critical functions of Emergency Response. DEQ works with private response providers and other government agencies to develop Geographic Response Plans, which detail protection strategies for riparian areas and coastal regions. DEQ also reviews and approves oil spill contingency plans for marine vessels and facilities. In addition, DEQ staff participates in drills and other training exercises with counterparts throughout the Pacific Northwest to coordinate responses and ensure that any spill will be responded to rapidly and effectively.

Dry Cleaner Rule Development

In 2002, the Environmental Quality Commission (EQC) promulgated a set of rules for the dry cleaning industry. The rule-writing was spurred by revisions to the dry cleaning statute by the 2001 Legislature. Prior to 2002, no rules had been developed. A new division was added to the Oregon Administrative Rules (OAR), three (3) existing Hazardous Waste rule divisions were updated, and the existing Enforcement rule division was updated. The rule package was approved by the EQC in October 2002.

Here is a summary of the new and revised rules:

Standards Applicable to Dry Cleaning Facilities and Dry Stores (OAR 340-124)

Division 124 is a new rule section implementing the dry cleaning statute. The rule lists standards and procedures, defines terms, and specifies the waste minimization requirements. The rule describes how DEQ prioritizes dry cleaner sites and otherwise manages the funds in the Dry Cleaner Environmental Response Account. The rule also describes how both active and inactive dry cleaning facilities are to apply to DEQ for coverage under the statute.

Hazardous Waste Management System (OAR 340-100)

Division 100 was amended to reference Division 124.

Identification and Listing of Hazardous Waste (OAR 340-101)

Division 101 was amended to include special requirements for hazardous waste generated by conditionally-exempt hazardous waste generators. Most dry cleaning facilities fall into this category.

Standards Applicable to Generators of Hazardous Waste (OAR 340-102)

Division 102 was amended to add an annual dry cleaner reporting requirement.

Enforcement Procedure and Civil Penalties (OAR 340-012)

Division 12 was amended to include specific requirements for dry cleaners.

In 2001, the Legislature revised the oil spillage requirements. Oil spill contingency fees were increased, and new requirements for managing ballast water were added. While developing new rules to implement these laws, DEQ took the opportunity to update and revise the existing spill rules. (See box below). The Emergency Response Requirements and Ballast Water Rules were adopted by the EQC in October 2002. The Oil Spill Contingency Planning Rules and revisions to the Enforcement Rules were adopted in December 2002.

Emergency Response Rule Revisions

In 2002, DEQ wrote three (3) new Oregon Administrative Rules (OARs) and revised a fourth. These rule changes had been needed for some time. Rules governing Emergency Response were originally amalgamated from other programs and other divisions within DEQ. In an effort to remove conflicting rules, update the rules to current statutes, and clarify the steps necessary to comply with the rules, the Environmental Quality Commission (EQC) revised DEQ's spill rules (OAR 340-108), contingency planning rules (OAR 340-047), and enforcement rules (OAR 340-012).

Here is a summary of what each of the new rules will accomplish:

Oil Spill Contingency Planning and Fees (OAR 340-141)

This rule describes the requirements for preparing an oil spill contingency plan and lists the fees that are charged to covered vessels and/or facilities. The rule also describes the standards DEQ will use when reviewing a contingency plan for approval. Resource requirements (how much of a spill must be cleaned up) and timing requirements (how quickly response actions must occur) are tailored to reflect the geographic area where the spill occurs. Oil Spill Contingency Plans must be tested with an exercise or drill at least once a year. Plan writers must show that their vessel or facility is prepared to respond to, and recover a specific percentage of, their worst-case potential spill.

Oil and Hazardous Materials Emergency Response Requirements (OAR 340-142)

This rule consolidates the emergency response sections of OAR 340-047 and OAR 340-108 into a single rule. The rule updates the quantities of spilled hazardous materials that must be reported to DEQ, and describes how the person responsible for the spill must act in reporting and cleaning up the spill. The rule also describes the role played by DEQ staff and the management method to be followed during an incident response (must be consistent with the National Interagency Incident Management System).

Ballast Water (OAR 340-143)

This new rule aims to reduce the potential for foreign invasive species to reach Oregon waters in the ballast water of ocean-going vessels. The rule requires vessel operators to report to DEQ the details of their ballast water management practices. Only ballast water obtained from the deep ocean or shallower waters off the Pacific Northwest may be discharged within Oregon waters.

In addition, DEQ's existing enforcement rules (OAR 340-012) were updated to include three (3) new violations of the Emergency Response rules. These are for the new standards for oil spill contingency planning, proper management of ballast water, and emergency response actions and reporting. Each of the new sections includes three (3) classes of violations, with the violations posing the greatest potential consequences assigned to the highest class. Mitigating and compounding circumstances are also taken into account.

Orphan Sites

Orphan sites are high priority contaminated properties or areas where the persons responsible for the contamination are either unknown, unwilling or unable to clean up the contamination. The Orphan Site Account was authorized by the 1991 Legislature to help DEQ address contamination at these “orphaned” sites where the contamination posed a potentially serious threat to human health or the environment. The Account is funded through the sale of long-term bonds. Since 1992, DEQ has issued bonds totaling \$33.3 million. An additional \$4 million bond sale was approved by the 2001 Legislature and is planned in early 2003.

Investigation and cleanup of 66 sites has been funded, in whole or in part, with funds from the Orphan Site Account since 1992. This includes seven (7) sites that were designated as Orphan projects in FY 2002, and seven (7) additional sites that have been designated so far in FY 2003. Orphan sites include a range of contaminated sites such as: small businesses; abandoned mines; and areas of contaminated groundwater.

Site Assessment

DEQ’s Site Assessment staff are responsible for identifying potentially-contaminated sites and conducting initial investigations to determine the presence (or absence) of contamination. Site Assessment staff are also largely responsible for maintaining the Environmental Cleanup Site Information System (ECSI). ECSI is a database used by DEQ’s Environmental Cleanup Program to store basic information on potentially-contaminated sites.

Site Assessment staff primarily conduct Site Evaluations and Preliminary Assessments. A Site Evaluation (also known as a Site Screening) is a review of readily-available information on a site to determine the likelihood of contamination and the threats that may be posed to human health or the environment. The information may come from the site owners or operators (interviews, previously-conducted site investigations) or from DEQ or other agency databases. A Preliminary Assessment is a more formal documentation of conditions on and near a site, and may include sampling to confirm the presence or absence of contamination. Site Assessment uses the information it gathers to rank sites by the threat they pose, so that DEQ can focus on cleaning up the highest priority sites first.

In 1999, DEQ implemented a new approach to identifying potentially-contaminated sites. Rather than simply evaluating sites as they became known to DEQ (through contractor reports, phoned-in complaints, etc.), a more proactive strategy of searching out potential sites in areas where any contamination could pose a particularly high threat to human health or the environment was implemented. These “Vulnerable Areas” include places where groundwater is used for municipal or domestic drinking water supplies, and areas near streams and rivers that support threatened or endangered species.

Targeted Brownfield Assessments

A Targeted Brownfield Assessment (TBA) is an investigation of an abandoned or underutilized property to determine if the property is contaminated with hazardous substances. Under a TBA, Site Assessment staff collect samples of soil, groundwater, and other media from the property and have the samples analyzed for the presence of hazardous substances. If hazardous substances are present in significant concentrations, Site Assessment may outline various cleanup options and provide an estimate of the cleanup costs. TBAs are conducted through a Cooperative Agreement between DEQ and the U.S. Environmental Protection Agency (EPA). EPA approves and funds TBAs, while DEQ does the investigation, sampling, and reporting.

Properties owned by local governments, quasi-public entities (e.g., port authorities), non-profit/community development organizations, or private parties are potentially eligible for TBAs. DEQ and EPA give preference to sites with little or no environmental information, and where community-supported redevelopment plans are in place. TBAs are free to public-sector and non-profit owners who are not responsible for any contamination at the site. At privately held sites, cities/counties must work with the responsible parties to reimburse EPA for the cost of the assessment.

DEQ has conducted 12 Targeted Brownfield Assessments since 1997. Two Assessments were completed in FY 2002. The first was at the former Bennett's Auto Dealership, located at 609 North Broadway Avenue in Burns. The private owners requested the TBA prior to their tearing down the deteriorating building and redeveloping the site. DEQ excavated nine backhoe test pits at the site and collected one soil sample from each. While the samples were being analyzed, the owners went ahead and removed two product pipes, three underground storage tanks, and 68 cubic yards of contaminated soil that had been uncovered during the excavations. The sampling found minimal contamination, and DEQ determined that no further cleanup was necessary at the site.

The second TBA was conducted at the Bertha Triangle site, a plot of land owned by the Oregon Department of Transportation (ODOT) bounded by Capitol Highway, Bertha Boulevard, and Bertha Court in the Hillsdale neighborhood of southwest Portland. ODOT hoped to sell the site to the non-profit Housing Development Center (HDC), who planned to build a mixed-use development of ground-floor retail topped with residential units for seniors. But HDC wanted more information on potential contamination at the site before it would proceed. DEQ collected soil samples from 11 boreholes installed throughout the site, and upgraded four of the holes into monitoring wells to collect groundwater samples. Some contamination was found, and DEQ made recommendations for properly managing contaminated soil that would be encountered during excavations for underground parking. But otherwise the contaminant levels were low enough for the redevelopment to proceed without a costly cleanup.

Site Response

Site Response staff oversee the investigation and cleanup of contaminated sites under an enforceable order or decree. Unlike Voluntary Cleanup, where the party responsible for investigating and cleaning up the site can, in most cases, stop the cleanup or continue without DEQ oversight whenever they choose, participation in Site Response is mandatory. Sites cleaned up under Site Response oversight are generally larger, more complex, and present a greater threat to human health and the environment than the average Voluntary Cleanup site.

For example, Site Response oversees the cleanup of federal “Superfund” sites. These are sites, listed on the National Priorities List (NPL), that have been identified by EPA as being among the most hazardous in the country. Fourteen (14) sites in Oregon have been listed on the NPL since the Superfund program was enacted by Congress in 1980. Three (3) of these sites have been cleaned up and subsequently “delisted”: Allied Plating in Portland, Martin Marietta in The Dalles, and Joseph Forest Products in Joseph. Of the 11 sites still on the list, EPA has delegated lead authority for cleanup of two (2) of them to Site Response (McCormick & Baxter in Portland and the Union Pacific Railroad Tie Treatment Plant in The Dalles). EPA has retained lead authority over the remaining nine (9) sites, with Site Response in an advisory role. No sites in Oregon were added to or delisted from the NPL in FY 2002.

There are 173 sites currently active in Site Response. Site Response staff have completed cleanups at 48 sites since 1987, including seven (7) sites in FY 2002. (These figures include the 14 NPL sites).

Underground Storage Tanks

Underground Storage Tank (UST) staff regulate the installation, maintenance, and decommissioning of underground tanks that are used for the storage of petroleum products and certain hazardous substances. The UST Program has four major components. Compliance and Prevention issues permits for underground storage tanks and specifies technical requirements for new and existing UST systems. Service Provider and Supervisor Licensing issues licenses to companies (service providers) and individuals (supervisors) to perform UST work. UST Cleanup, commonly known as the Leaking UST or LUST Program, investigates and cleans up contamination from leaking underground storage tanks. Finally, the Heating Oil Tank (HOT) section tracks heating oil tank releases, cleanups, and decommissionings, although actual cleanups are conducted by a licensed service provider.

In the past year, UST staff have developed and implemented new interactive features on DEQ’s web site to better serve contractors and the general public. First, DEQ’s LUST Cleanup database was made accessible over the web, allowing users to search for LUST sites in their area and learn basic information about the sites, including the type of contamination and the status of the cleanup. Next, UST staff developed an “On-Line Petroleum Release Report”. This new tool allows contractors to report releases from regulated tanks and heating oil tanks over the internet, thus streamlining the reporting process.

DEQ has recorded 6595 releases from regulated underground storage tanks and 12,958 releases from heating oil tanks in the LUST database. 122 releases were reported from regulated underground storage tanks in FY 2002; an additional 2553 releases were reported from heating oil tanks. The LUST Program has certified cleanups for 4573 regulated tanks, including 410 regulated tank cleanups in FY 2002. 8187 heating oil tank cleanups have been certified, including 2325 in FY 2002.

Underground Storage Tank Rule Revisions

The 2001 Legislature adopted new requirements for underground storage tanks (USTs). DEQ is currently incorporating public comments on proposed rule amendments that will implement the requirements. DEQ plans to present the rule amendments to the Environmental Quality Commission (EQC) in January 2003 for adoption and approval. The proposed rule amendments are outlined below. Note that these rule amendments only apply to regulated USTs; they do not apply to heating oil tanks.

Enforcement Procedure and Civil Penalties (OAR 340-012)

The existing Division 12 enforcement rules were changed as they relate to UST compliance and cleanup. New violation descriptions were added to more clearly define the types of violations typically found during an UST facility inspection. Only the most serious violations were designated as Class 1. These changes were made to implement the pilot expedited enforcement program described below in Division 150.

UST Cleanup Rules (OAR 340-122)

Some definitions were modified in these rules to be consistent with the definitions in Division 150.

UST Compliance Rules (OAR 340-150)

Revisions were made to integrate federal UST regulations into the Oregon Administrative Rules, and to incorporate new provisions approved by the 2001 Legislature for training UST system operators and for a pilot program to expedite enforcement of the Compliance Rules.

Financial Responsibility for USTs (OAR 340-151)

This is a new rule. Division 151 was created to incorporate federal regulations requiring owners and permittees of petroleum USTs to maintain insurance coverage for cleaning up a release or compensating third parties for damages. These regulations were previously adopted by the State of Oregon. Division 151 incorporates these regulations into the Oregon Administrative Rules.

Registration and Licensing Requirements for UST Service Providers (OAR 340-160)

These rules were revised to make definitions consistent with Division 150, to delete requirements that were no longer applicable, and to update fees authorized by the 2001 Legislature.

Voluntary Cleanups

Voluntary Cleanup was authorized by the 1991 Legislature to provide willing parties with DEQ oversight while they investigated and, if necessary, cleaned up contamination from their properties. Parties pay for a DEQ Project Manager to oversee their work, while the Project Manager ensures that the work meets the requirements of the Environmental Cleanup Law. This cooperative process helps parties to efficiently move through the process to meet sometimes tight funding and construction deadlines.

In 1999, DEQ formally added a second “pathway” through the Voluntary Cleanup process. Independent Cleanup is a process by which parties complete their own investigations and cleanups with minimal DEQ oversight. By providing DEQ with 90 days notice, Independent Cleanup staff can arrange to review and approve a final cleanup report from the parties within a 60-day time-frame. This process allows parties to

proceed at their own pace, with minimal delays caused by regulatory review. Independent Cleanup is only available for low- to moderately-contaminated sites that do not pose an imminent threat to human health or the environment.

There are 296 currently active Voluntary Cleanup sites, with 229 sites following the traditional pathway and 67 sites in Independent Cleanup. Voluntary Cleanup has completed cleanups at 359 sites since 1991, far more cleanups than Site Response alone could have completed. Forty (40) cleanups were completed in FY 2002, including 11 Independent Cleanups.

Major Projects and Initiatives

In addition to the accomplishments listed above, the Environmental Cleanup Program has engaged in other projects and initiatives that have had an impact on the investigation and cleanup of contaminated sites.

Abandoned Mines

A growing percentage of Environmental Cleanup Program work is focusing on identifying, prioritizing, and cleaning up abandoned mine sites. From the 1880s into the 1950s, mercury, gold, silver, and other metals were actively mined in Oregon. Now largely inactive or abandoned, some of these mines pose serious environmental and public health risks. At some sites, acidic mine drainage is leaking into streams that are prime habitat for steelhead and salmonid fish species, including threatened and endangered species. At other sites, people are living in close proximity to former mines, potentially exposing themselves to contamination through the inhalation of mercury-contaminated dust.

DEQ is cooperating with other state agencies, such as the Department of Geology and Mineral Industries (DOGAMI), and federal agencies such as the Bureau of Land Management (BLM) to address the abandoned mines problem. These agencies and others participate in the Interagency Abandoned Mine Lands Work Group, which works to identify and prioritize abandoned mines and tap into federal and state sources of money to clean up the mines.

DEQ is relying upon the Orphan Site Account to fund its share of abandoned mine cleanups. At many mines, there are no responsible parties available to contribute toward investigating and cleaning up the mines. The companies that conducted the mining have largely gone out of business, and many mine sites are currently owned by private parties who were unaware of the potential for contamination when they acquired the property. DEQ has designated five (5) abandoned mines as Orphan sites. DEQ is also proposing to focus the majority of its Orphan Site Account spending in 2003-05 on abandoned mine cleanups, due to the high priority nature of the work.

Cracker Creek Mine Restoration Project

One example of DEQ's work with other state and federal agencies is the Cracker Creek Mine Restoration Project. The project has focused mainly on restoration activities near the Eureka and Excelsior (E&E) Mine. The E&E Mine is located adjacent to Cracker Creek approximately seven miles north of Sumpter in Baker County. The major period of activity at the E&E Mine occurred between 1888 and 1916 when over \$1 million in gold was recovered. The mine re-opened from 1938-1942 but has been inactive since that time, except for some exploration work in the 1980s.

In June 2000, EPA contractors sampled soil and surface water at the site as part of a joint investigation with DEQ. The sampling documented elevated levels of metals such as arsenic, mercury, lead and copper in soil, waste rock and stream sediments at the site. Cracker Creek contains sensitive species such as Redband Trout, and nearby tributaries contain Bull Trout, which are listed as threatened under the federal Endangered Species Act. Lower Cracker Creek also serves as a back-up water supply for the City of Sumpter.

In late 2001/early 2002, the site owner, Cracker Creek Gold Mining Company, successfully applied for a grant from the Oregon Watershed Enhancement Board. The grant money, along with a 25% matching contribution from the company, was used to remove approximately 10,000 cubic yards of waste rock from Cracker Creek. The waste rock was added to a nearby waste rock pile away from the creek. The newly exposed riparian area along Cracker Creek was seeded and will be further revegetated in 2003. The waste rock pile will also be revegetated to the maximum extent possible.

Cross-Program Section

The Cross-Program Section first came together in August 2001 as part of an internal DEQ reorganization that combined the Environmental Cleanup Division (ECD) and Waste Prevention and Management (WPM) into the Land Quality Division. The section was tasked with developing and implementing cross-program agency policies, with the goal of assisting different divisions and programs within the agency in working together cooperatively and efficiently. The section is currently working on developing policies for abandoned mines, contaminated sediments, and the reduction of persistent bioaccumulative toxins (PBTs).

Prospective Purchaser Agreements

A Prospective Purchaser Agreement (PPA) is a legally binding agreement between DEQ and a prospective purchaser of contaminated property. DEQ agrees to limit the purchaser's environmental liability for the property in exchange for the purchaser providing a "substantial public benefit" in the redevelopment or reuse of the property. PPAs were authorized by the 1995 Legislature. DEQ has to-date entered into 56 PPAs. Six (6) agreements were entered into in FY 2002.

Total Petroleum Hydrocarbon Guidance

In 2002, DEQ staff held a series of meetings with an external workgroup to develop guidance on estimating risks from petroleum contamination, referred to as Total Petroleum Hydrocarbons (TPH). Currently, DEQ estimates the risks posed by petroleum contamination by looking at a limited number of petroleum constituents, such as benzene, toluene, ethylbenzene and xylenes (BTEX), and polynuclear aromatic hydrocarbons (PAHs). The TPH approach would estimate the risks from petroleum contamination as a whole. The proposed guidance will include generic standards for gasoline, diesel, and transformer mineral oil as well as technical information on how to calculate site-specific standards for any petroleum mixture or product. The purpose of the guidance is to ensure that the investigation of petroleum-contaminated sites addresses all reasonably likely exposures and that subsequent cleanup meets acceptable risk levels. DEQ is currently drafting guidance based on the recommendations of the workgroup and plans to have it finalized in 2003.

Web Pages and Databases

DEQ first established its presence on the World Wide Web in June 1996. Since then, the agency has been constantly improving both the quantity and quality of information available on its web pages. The following changes and improvements have been made since July 2001:

- In the summer of 2001, DEQ reorganized a large portion of its web pages to reflect the creation of the new Land Quality Division. Web pages for Emergency Response, Environmental Cleanup, Hazardous Waste, Solid Waste, and Underground Storage Tanks were linked to a common Land Quality home page to mirror the structure of the new division;

- A searchable version of the Leaking Underground Storage Tank (LUST) database went on-line in October 2001. The searchable database allows users to find information on all reported releases from underground storage tanks and/or heating oil tanks within a defined area;
- The organization of the Brownfields web pages was substantially revised to make it easier for users to find information on funding sources (the most common concern when it comes to investigating and cleaning up abandoned sites);
- A fact sheet on the identification and protection of Native American Archeological and Cultural Resources was placed on the web in May 2002. The fact sheet outlines state and federal laws that protect Native American sites from disturbance and destruction, and alerts parties who may be conducting their own cleanups of their responsibilities under the law. The fact sheet was also incorporated into the packets of information given to parties entering DEQ's Environmental Cleanup Program;
- In the summer of 2002, DEQ began adding the texts of Records of Decision (RODs) to the web. This step was recommended to DEQ by the Environmental Cleanup Advisory Committee (ECAC). RODs contain information on the area around a site (soil conditions, depth to groundwater, land use, etc.) that can be of help to contractors who are investigating other sites in the same area. Plus, RODs provide a detailed explanation of the cleanup strategy for a particular site and why that strategy was chosen. To date, the texts of two dozen RODs have been added to DEQ's web pages; and
- DEQ is currently working on a major upgrade of the user interface for the Environmental Cleanup Site Information (ECSI) database. Although most of the changes will only be visible internally to DEQ staff, the improvements should make the system both easier to use and easier to maintain, and will serve as a template for upgrading other DEQ databases in the future.

Budget Update

The 2001 Legislature passed all of the fee increases proposed by Governor Kitzhaber for DEQ's Environmental Cleanup Program, avoiding service reductions that would have been necessary otherwise. However, over the past 18 months, revenues from the most significant fee source, **hazardous waste disposal fees**, have declined, posing a challenge to funding cleanup efforts in the future. These fees, collected from disposals of hazardous materials at the hazardous waste landfill in Arlington, are necessary to pay for basic administrative costs of the Environmental Cleanup Program, in conjunction with federal grants and cost recovery of individual site expenditures.

The 2001 Legislature also approved a General Fund appropriation, financing a new \$4 million orphan site bond sale in the 2001-03 biennium. Although the amount approved was less than the \$8 million requested by DEQ, together with cost recoveries, the \$4 million bond sale has permitted the continued cleanup of high priority orphan sites.

For the 2003-05 biennium, DEQ is requesting an additional orphan site bond sale to continue this important work. The projected 2003-05 cost for orphan site investigation and cleanup is \$10.3 million. DEQ expects to continue cleaning up existing industrial orphan sites and initiate work at abandoned mine sites. Without an additional bond sale, DEQ would be severely constrained in its ability to investigate and clean up both newly identified and existing orphan sites. The agency would only be able to temporarily stabilize some sites, leaving uncontrolled contamination at other sites. Uncontrolled contamination would continue to spread, threatening human health and the environment and increasing the future costs of cleaning up the sites.

For More Information

To obtain additional copies of this report, or for other Environmental Cleanup Program information:

Address: Land Quality Division
811 SW Sixth Avenue
Portland, OR 97204
Telephone: (503) 229-5913 or 1-800-452-4011

Or visit the Environmental Cleanup Program on the web at <http://www.deq.state.or.us/wmc/cleanup/clean.htm>.

**Cleanup Phases Completed and Initiated
Actual and Projected, Fiscal Years 2002 and 2003**

Actions	Completed		Initiated	
	7/01-6/02	Projected 7/02-6/03	7/01-6/02	Projected 7/02-6/03
Suspected Releases Added to Database	132	120	NA	NA
Added to Confirmed Release List	56	60	NA	NA
Added to Inventory	49	50	NA	NA
Site Screenings	99	80	113	70
Preliminary Assessments & Equivalents	56	40	65	30
Voluntary Cleanup				
Removal Actions	2	2	4	4
Remedial Investigations	8	8	7	7
Feasibility Studies	9	8	7	7
Records of Decision	8	8	8	7
Remedial Actions	6	6	5	5
No Further Action Determinations	40	40	NA	NA
Site Response				
Removal Actions	2	2	5	5
Remedial Investigations	1	3	5	4
Feasibility Studies	1	3	2	4
Records of Decision	1	3	0	2
Remedial Actions	1	2	6	3
No Further Action Determinations	7	6	NA	NA
Underground Tanks				
Regulated Tank Releases Reported	122	100	NA	NA
Regulated Tank Cleanups	410	340	110	80
Heating Oil Releases Reported	2553	2500	NA	NA
Heating Oil Tank Cleanup Certifications	2325	2300	NA	NA

Notes:

- Site Response figures include dry cleaners and orphan sites.
- Heating Oil Tank Cleanup Certifications represents the number of reports filed with DEQ by licensed contractors.
- Environmental Cleanup Program numbers are down compared to past years due to a number of factors: a slow economy (resulting in less demand for cleanups), DEQ funding and staffing shortages, and more complex sites (which take longer to investigate and clean up).

**4 Year Plan of Actions Completed and Initiated
7/1/2003 – 6/30/2007**

Actions	2003-2005		2005-2007	
	Completed	Initiated	Completed	Initiated
Suspected Releases Added to Database	350	NA	350	NA
Added to Confirmed Release List	90	NA	90	NA
Added to Inventory	60	NA	60	NA
Site Screenings	225	225	225	225
Preliminary Assessments & Equivalent	140	140	140	140
Voluntary Cleanup				
Removal Actions	14	16	15	17
Remedial Investigations	25	27	28	30
Feasibility Studies	13	15	14	15
Records of Decision	13	15	14	15
Remedial Actions	10	15	12	15
No Further Action Determinations	80	NA	80	NA
Site Response				
Removal Actions	12	16	12	16
Remedial Investigations	7	14	7	14
Feasibility Studies	8	8	8	8
Records of Decision	8	8	8	8
Remedial Actions	3	8	3	8
No Further Action Determinations	10	NA	10	NA

This four-year plan assumes stable funding over the next two biennia, and is based on the number of actions actually initiated and completed over the past four years. Voluntary Cleanup sites are both more numerous and (generally) simpler than Site Response sites, and so move through the investigation and cleanup process much faster. No Further Action determinations are often made during the site screening and preliminary assessment phase, and therefore no removals, remedial investigations, etc. are conducted at these sites.

Legislatively Adopted Budget, 2001-03

(Dollars in millions)

Activity	Funding Sources	Budget*
Environmental Cleanup (excluding USTs)		
Enforcement and voluntary sites, program management	HSRAF ¹ (including cost recoveries), EPA grants	16.3
Orphan cleanups	Industrial Orphan Site Account	6.0
McCormick & Baxter Superfund site	Federal Superfund	8.2
Dry cleaner cleanups ²	Dry Cleaner Fund	2.0
	99.3 FTE	\$ 32.5
Underground Storage Tank Cleanups		
Regulated tank cleanups	Federal grant, cost recoveries, HSRAF (grant match only)	3.4
Heating oil tank cleanup and decommissioning	Contractor licensing, tank owner certification fees	0.6
	10.5 FTE	\$ 4.0
Emergency Response and Spill Prevention		
Emergency Response	General Fund, cost recoveries, EPA grant funds	1.0
Highway Spills	Petroleum Load Fee	0.2
Drug Lab Cleanups	Asset forfeitures, cost recoveries, law enforcement agency reimbursements	0.4
Oil spill prevention, preparedness	Marine vessel & facility fees	0.6
	25.4 FTE	\$ 2.2
Cleanup Total	135.2 FTE	\$ 38.7

* Does not include agency indirect charges.

¹ Hazardous Substance Remedial Action Fund

² Includes hazardous waste minimization component of program