



**REPORT OF  
THE  
STATE AUDITOR**

**Petroleum Storage Tank Program  
Division of Oil and Public Safety**

**Performance Audit  
October 2006**

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October 23, 2006

Members of the Legislative Audit Committee:

This report contains the results of a performance audit of the Petroleum Storage Tank Program in the Division of Oil and Public Safety. The audit was conducted pursuant to Section 2-3-103, C.R.S., which authorizes the State Auditor to conduct audits of all departments, institutions, and agencies of state government. The report presents our findings, conclusions, and recommendations, and responses from the Division of Oil and Public Safety and the Petroleum Storage Tank Committee.

A handwritten signature in black ink that reads "Sally Symanski".

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**STATE OF COLORADO**  
**OFFICE OF THE STATE AUDITOR**  
**SALLY SYMANSKI, CPA**  
**State Auditor**

**REPORT SUMMARY**

**Petroleum Storage Tank Program  
Division of Oil and Public Safety  
Performance Audit - October 2006**

## **Authority, Purpose, and Scope**

This performance audit was conducted under the authority of Section 2-3-103, C.R.S., which authorizes the Office of the State Auditor to conduct performance audits of all departments, institutions, and agencies of state government. The audit work was conducted from December 2005 through August 2006 in accordance with generally accepted government auditing standards. During the audit we evaluated the Division's regulation of petroleum storage tanks and the remediation of petroleum contamination, including the Division's tank registration, oil inspection, and enforcement responsibilities. Additionally, we reviewed the Division's oversight of funds used to assist responsible owner/operators and innocent property owners with remediation costs. We acknowledge the assistance and cooperation of the Division of Oil and Public Safety and the Petroleum Storage Tank Committee.

## **Background**

The Division of Oil and Public Safety (Division) is located within the Department of Labor and Employment. In accordance with the statute (Section 8-20-101, C.R.S.), the Division is responsible for regulatory functions related to public health and safety, which includes establishing and enforcing statutes, rules, and regulations governing underground and aboveground petroleum storage tanks, cleanup (remediation) of oil spills, and reimbursement of remediation costs to storage tank owner/operators. The Petroleum Storage Tank Program was established in 1989 and assigned to the Division in 2001 under Section 8-20-101, C.R.S. The Petroleum Storage Tank Program implements regulations promulgated by the federal Environmental Protection Agency (EPA) and enforces state statutes and regulations related to petroleum storage tanks and remediation. The Petroleum Storage Tank Program includes three sections: Field Inspection, Remediation, and State Fund. The Field Inspection Section is responsible for enforcing standards governing the registration, installation, and operation of petroleum storage tanks to ensure compliance with state laws and regulations. The Remediation Section is responsible for overseeing the cleanup of sites contaminated from the release of petroleum products from underground and aboveground storage tanks. The State Fund Section is responsible for administering state funds used to reimburse qualifying owner/operators for the costs of remediating sites with petroleum contamination.

The Division is generally cash-funded by fees from the various activities it regulates. Revenue for the Petroleum Storage Tank Program consists primarily of registration fees and a surcharge fee that are credited to the Petroleum Storage Tank Fund (State Fund), and federal grants, including the Leaking Underground Storage Tank (LUST) Trust Fund Grant. In Fiscal Year 2006 the Division's total revenues for the Petroleum Storage Tank Program were about \$40.6 million and its expenditures were about \$35.2 million.

*For more information on this report, contact the Office of the State Auditor at 303.869.2800.*

## **SUMMARY**

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Petroleum Storage Tank Program Division of Oil and Public Safety  
Performance Audit - October 2006

## **Summary of Audit Findings**

### **Regulatory Activities**

State statutes require that owner/operators register their petroleum storage tanks with the Division and require the Division to inspect these tanks to ensure compliance with state regulations. We reviewed the Division's Petroleum Storage Tank Program and identified the following concerns:

- **Registration.** We found the Division lacks sufficient statutory authority to ensure that all owner/operators are aware of and in compliance with registration requirements. Specifically, we reviewed a sample of 76 owner/operators who applied for State Fund assistance between July 2004 and February 2006 to determine if their tanks were registered with the Division as required by the statute. All 76 owner/operators in our sample had applied for State Fund assistance and had failed to comply with one or more state regulations related to petroleum storage tanks. We found that 24 of the 76 (32 percent) owner/operators had one or more tanks that were not appropriately registered with the Division for one or more years. Unregistered tanks represent a risk to public health and the environment because the owner/operators may not be aware of tank regulations and requirements. Additionally, unregistered tanks make it difficult for the Division to identify all tanks needing inspection to ensure they are properly maintained and monitored to reduce the potential for a release.
- **Inspections.** We reviewed a sample of 38 registered sites with active petroleum storage tanks that had a confirmed petroleum release between July 2002 and January 2006 to assess the timeliness of routine inspections prior to the releases. We found the Division's routine inspections were not always timely, and in some cases did not occur at all. Specifically, for the 25 retail sites that should have been inspected annually, 13 were inspected on average every 16 months; for the 8 non-retail sites that should have been inspected biennially, one was not inspected at all prior to the release; and for the 3 sites that should have been inspected every 18 months, one was not inspected for about 21 months, one was not inspected for about 27 months, and one site was never inspected prior to the release, even though it had been registered with the Division for about 45 months. Timely inspections are important to ensure that leaks are detected as soon as possible.
- **Enforcement.** We reviewed the Division's enforcement practices and found that, overall, the Division does not consistently follow its enforcement policies when it finds violations or assess penalties against owner/operators who fail to correct violations or provide release detection records. Specifically, we reviewed a sample of oil inspections conducted at 32 facilities by the Division between February 2001 and November 2005 and found compliance issues at 11 (34 percent) of the inspected facilities. Of the 11 facilities, 7 had one or more site violations, such as no exterior emergency stop switch for the dispensers or a defective dispenser hose, and 5 failed to submit complete monthly release detection records for the entire period requested. In most cases, the Division did not follow up or pursue enforcement proceedings with these facilities.

## Remediation Activities

State statutes require that when a petroleum release occurs and results in contamination, the site be cleaned up or “remediated.” The Division’s remediation activities include reviewing, approving, and monitoring owner/operators’ cleanup of petroleum contamination. Additionally, the Division oversees funds provided to assist owner/operators with remediation costs. We contracted with a remediation consultant, ESN Rocky Mountain, to review the Division’s practices for overseeing the remediation of contamination resulting from leaking petroleum storage tanks, and we reviewed the Division’s oversight of funds used to assist owner/operators with remediation costs. We identified the following concerns:

- **Timelines for required reports and plans.** When owner/operators have a confirmed petroleum release, they are required to submit a site characterization report and a corrective action plan to the Division within 90 days and 150 days, respectively, of the date of the confirmed release. We reviewed files for a sample of 24 of the 1,245 petroleum release sites that were confirmed between August 1999 and November 2005 and found that owner/operators were not timely in submitting their site characterization reports and corrective action plans. None of the owner/operators for these 24 sites submitted an acceptable site characterization report within the 90-day requirement or an acceptable corrective action plan within the 150-day requirement. On average, it took owner/operators about 280 days to submit the first site characterization report and about 400 days to submit the final approved site characterization report. Additionally, it took, on average, about 600 days (or about 1.6 years) for the 24 owner/operators to submit their final corrective action plans.
- **Remediation systems.** We reviewed the different types of systems used to remediate contaminated sites and identified concerns with the Division’s monitoring of mechanical systems (remediation systems used to cleanup contamination). Specifically, we reviewed Division files (including the quarterly monitoring reports submitted by owner/operators) for a sample of 24 active sites, 14 of which had mechanical remediation systems in place. For 3 of the 14 sites we also conducted on-site reviews with Division inspectors during their routine site inspections. For our sample, we found that the Division was not able to tell from the monitoring reports whether the owner/operators were complying with their corrective action plans and ensuring that mechanical remediation systems were operating as set forth in the plans. This is because the quarterly reports are not standardized and do not require owner/operators to submit consistent and complete data. Furthermore, at two of the sites we visited, we found the mechanical systems were not running at all, and at the third site, the mechanical systems were only partially running. Although the monitoring reports for these sites indicated that the systems were not working at times, it was not possible to tell exactly when the systems were down and for how long.

## **SUMMARY**

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Petroleum Storage Tank Program Division of Oil and Public Safety  
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- **Remediation inspections.** We reviewed the Division's Remedial System Inspection Program and identified areas where the Program can be strengthened, specifically with respect to split samples. We found the Division (1) is not using the split sampling process as effectively as it could, such as following up with owner/operators to determine the reasons when there are differences in sample results and maximizing the monitoring value of the split sample process; (2) has not prepared specific guidance for collecting split samples to ensure that samples are taken in a consistent manner; and (3) has not established standards for analyzing split samples.
- **State Fund eligibility.** The Petroleum Storage Tank Committee, with assistance from the Division, is required to establish procedures governing reimbursements from the State Fund that include determining whether the amount an owner/operator receives in State Fund assistance should be reduced due to lack of compliance with specific tank regulations. We found that although the Committee has established criteria for determining reduction amounts, there is no written documentation in the files indicating that the Committee has applied these criteria consistently across remediation projects. More specifically, we found that for similar issues of noncompliance, the Committee imposed different percentage reductions.
- **Cost recovery.** We reviewed the Division's Leaking Underground Storage Tank (LUST) Trust Fund cost recovery efforts and found the Division could improve its efforts to recover remediation costs from owner/operators in accordance with Environmental Protection Agency program directives and Division policy. Specifically, we found the Division is not always requesting payment from or taking enforcement actions against responsible owner/operators, or determining whether responsible owner/operators have the ability to pay remediation expenses. We also found the Division is not always recovering correct amounts from the State Fund when this option of cost recovery is used.
- **Expenditure controls.** We reviewed the Division's practices for controlling remediation expenditures and identified opportunities for improvements of both the budget and reimbursement processes. First, we found the Division's manual comparison of every invoice submitted by owner/operators with the cost guidelines is duplicative and time-consuming, since the Division has already compared the cost of the item with the cost guidelines when it approved the remediation budget. Second, we found the Division has not established cost standards for many of the items typically used on remediation projects.

Our recommendations and the responses of the Division of Oil and Public Safety and the Petroleum Storage Tank Committee can be found in the Recommendation Locator and in the body of the report.

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## RECOMMENDATION LOCATOR

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<b>Rec. No.</b>	<b>Page No.</b>	<b>Recommendation Summary</b>	<b>Agency Addressed</b>	<b>Agency Response</b>	<b>Implementation Date</b>
1	19	Identify and implement ways to increase owner/operator awareness of registration requirements, such as requiring companies that sell storage tanks to notify purchasers of the Division's registration requirements or requiring tank owner/operators to present proof of registration to petroleum distributors before purchasing petroleum products.	Division of Oil and Public Safety	Agree	August 2007
2	22	Identify options for streamlining and improving the timeliness of the oil inspection process, such as requiring owner/operators to hire a qualified company to perform meter measurements and calibrations and/or implementing a more robust risk-based approach to determine site inspection frequency.	Division of Oil and Public Safety	Disagree	--
3	25	Ensure staff comply with Division policies and follow up on site violations and inadequate or late release detection system reporting and assess penalties against owner/operators who repeatedly fail to correct violations in a timely manner.	Division of Oil and Public Safety	Agree	December 2007
4	32	Evaluate options for revising the current deadlines for submitting site characterization reports and corrective action plans; review and revise policies related to extensions; and consistently take enforcement actions against owner/operators who continually fail to comply with Division requirements.	Division of Oil and Public Safety	Partially Agree	January 2008

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## RECOMMENDATION LOCATOR

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<b>Rec. No.</b>	<b>Page No.</b>	<b>Recommendation Summary</b>	<b>Agency Addressed</b>	<b>Agency Response</b>	<b>Implementation Date</b>
5	35	Continue developing and implementing standard remediation monitoring reporting requirements; apply sanctions when owner/operators fail to keep their systems operational; and consider requiring owner/operators to install an independent data source on all major components of a remediation system and use this information to prepare monitoring reports.	Division of Oil and Public Safety	Agree	June 2007
6	38	Reevaluate the purpose of the split sampling process; if the Division continues to use split samples, improve guidance on how to collect split samples and establish standards for analyzing samples.	Division of Oil and Public Safety	Agree	October 2008
7	42	Evaluate a system for maintaining written documentation of the Committee's rationale for final reduction decisions and review this information to periodically evaluate Committee practices for determining reduction amounts.	Petroleum Storage Tank Committee	Agree	March 2008
8	45	Request reimbursement for project expenditures from responsible owner/operators and take enforcement actions as necessary; establish criteria or use the EPA's software to evaluate owner/operators' ability to repay LUST Trust Fund expenditures, pursuing cost recovery when cost-effective; perform periodic reconciliations between expenditure information in COSTIS and COFRS or alternatively, relying on expenditures recorded in COFRS; and maintain supporting documentation for expenditures recovered from the State Fund.	Division of Oil and Public Safety	Agree	November 2007

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## RECOMMENDATION LOCATOR

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<b>Rec. No.</b>	<b>Page No.</b>	<b>Recommendation Summary</b>	<b>Agency Addressed</b>	<b>Agency Response</b>	<b>Implementation Date</b>
9	48	Revise Committee policies to allow Division staff to review expenditures to ensure they are included in the budget and are supported by invoices, and establish more comprehensive cost standards to be used in the budget development process.	Division of Oil and Public Safety	Agree	July 2008
			Petroleum Storage Tank Committee	Agree	January 2007

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# Description of the Division of Oil and Public Safety

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## Background

The Division of Oil and Public Safety (Division) is located within the Department of Labor and Employment. In accordance with the statute (Section 8-20-101, C.R.S.), the Division is responsible for regulatory functions related to public health and safety, including establishing and enforcing statutes, rules, and regulations governing underground and aboveground petroleum storage tanks, cleanup (remediation) of oil spills, reimbursement of remediation costs to qualifying storage tank owner/operators, boilers in certain types of buildings, carnival and amusement park rides, explosives, and public school construction.

The Division's mission is "to maximize the protection of consumers, retailers, refiners of petroleum products, users of explosives, boiler owners, and public school students in the areas of safety, product quality, accurate measurement, and safe building design." As part of its mission, the Division regulates petroleum storage tanks to prevent leaks, or releases, and contamination. If leaks or contamination occurs, the Division oversees the remediation of the petroleum storage tank site to reduce the contaminants to acceptable levels. The importance of regulating underground storage tanks has been identified in studies by the Center for Disease Control and Prevention. These studies show tanks that leak hazardous petroleum substances contaminate the soil and groundwater and pose health risks ranging from nausea, to kidney or liver damage, or even cancer. Additionally, leaking underground storage tanks can cause toxic vapors, fire hazards, and reduce property values.

This audit focuses on the Division's regulation and oversight of petroleum storage tanks and remediation of contaminants caused by releases. The Division's oversight of boilers, carnival and amusement park rides, explosives, and public school construction will be discussed in a subsequent report to be issued by the Office of the State Auditor.

## Petroleum Storage Tank Program

The Petroleum Storage Tank Program was established in 1989 and assigned to the Division of Oil and Public Safety in 2001 under Section 8-20-101, C.R.S., when the Division was statutorily created. The Petroleum Storage Tank Program implements regulations promulgated by the federal Environmental Protection Agency (EPA) and enforces state statutes and regulations related to petroleum storage tanks and remediation. Generally, petroleum storage tanks are located at retail gas stations. Petroleum storage tank owner/operators are required to register their tanks with and pay a registration fee to the Division. Retail gas station owners purchase petroleum from distributors. Distributors pay a surcharge on each truckload of petroleum sold. The fee and surcharge are passed on to consumers who purchase petroleum. The Petroleum Storage Tank Program includes three sections, described below.

### Field Inspection Section

In accordance with the statutes, the Field Inspection Section is responsible for enforcing standards governing petroleum products and the registration, installation, and operation of petroleum storage tanks. First, the statute requires petroleum storage tanks to be registered with the Division and the owner/operator to renew the registration annually:

Each owner or operator of an underground or aboveground storage tank shall register such tank with the Director of the Division of Oil and Public Safety within thirty days after the first day on which the tank is actually used to contain a regulated substance or, in the case of an aboveground storage tank, on or before July 1, 1993, or, thereafter, within thirty days after the first day on which the tank is actually used to contain a regulated substance. Each owner or operator shall renew such registration annually on or before the calendar day and month of the initial registration for each year in which the storage tank is in use. (Section 8-20.5-102(1), C.R.S.)

Additionally, the statutes require the Division to inspect all petroleum storage tanks in accordance with the following conditions:

“. . . the Director of the Division of Oil and Public Safety or a designee shall make an on-site inspection of every new installation and every upgrading of an existing underground storage tank prior to the operational start-up of such tank to ensure that all of the standards established in this part 2 have been met.” (Section 8-20.5-204(4), C.R.S.) In addition, “It is the duty of the Director of the Division of Oil and Public Safety and the Director's Deputies to inspect all

containers or storage tanks from which products of petroleum to be used for illuminating or power purposes are retailed.” (Section 8-20-223, C.R.S.)

Furthermore, state regulations require that all petroleum storage tanks be equipped with release detection systems and records be kept showing that the release detection systems are operational. The Field Inspection Section conducts inspections which include inspecting the lines that carry the petroleum to the dispensers, where possible; testing the quality of the petroleum products on a sample basis; inspecting underground storage tank release detection systems; and reviewing release detection records following inspections. Finally, the Field Inspection Section is also responsible for following up with and taking enforcement actions against owner/operators who fail to comply with state laws and regulations.

The following table shows the number of tanks and sites registered with the Division for Fiscal Years 2003 through 2006, as well as the number of inspections conducted at registered tank sites by the Field Inspections Section during this period.

<b>Division of Oil and Public Safety Field Inspection Section Activities Fiscal Years 2003 Through 2006</b>					
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Percent Change 2003-2006</b>
<b>Number of Registered Tanks</b>	12,100	12,300	12,400	12,500	3%
<b>Number of Sites with Registered Tanks</b>	4,500	4,600	4,700	4,700	4%
<b>Number of Inspections</b>	1,900	1,800	1,900	3,000	58%

**Source:** Division of Oil and Public Safety data.

## Remediation Section

The Remediation Section oversees the cleanup of sites contaminated from the release of petroleum products from petroleum storage tanks. When a petroleum release is suspected, Division rules require the owner/operator of the site to notify the Division of the suspected release and then to confirm whether or not a release has occurred. Once a release has been confirmed, owner/operators must prepare a site

characterization report that describes the level of contamination at the site and indicates whether remediation is necessary. Once a site characterization report has been approved by the Division, the owner/operator must prepare and submit a corrective action plan to the Division. The corrective action plan describes the remediation methods that will be used on the site. Once remediation begins, the statute (Section 8-20.5-209 and Section 8-20.5-304, C.R.S.) authorizes the Division to oversee remediation activities to ensure that owner/operators comply with established corrective action plans and that remediation occurs. When monitoring remediation, the Division reviews monitoring reports submitted by the owner/operators and conducts on-site inspections at some sites. Owner/operators may be eligible for reimbursement of remediation costs from the Petroleum Storage Tank Fund, as discussed later.

In addition, the Remediation Section is responsible for overseeing remediation at sites where the owner/operator responsible for the contamination (1) cannot be identified or located (i.e., they are unknown), (2) is unwilling to clean up the contamination, or (3) is financially unable to cover the costs of remediation. In these instances, the Division may hire a contractor to remediate the site and use federal Leaking Underground Storage Tank (LUST) Trust Funds to pay for the remediation. The Remediation Section is responsible for determining reasonable remediation costs if the owner/operator applies for and is eligible for reimbursement from the State Fund or is eligible for assistance from the LUST Trust Fund. According to the EPA, the average cost of a remediation project nationally is about \$125,000. The following table shows the number of "active" remediation sites (i.e., remediation is in progress) for Fiscal Years 2003 through 2006.

<b>Division of Oil and Public Safety Active Remediation Sites Fiscal Years 2003 Through 2006</b>					
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Percent Change 2003-2006</b>
<b>Active Remediation Sites</b>	1,500	1,500	1,400	1,400	-7%
<b>Source:</b> Division of Oil and Public Safety data.					

## State Fund Section

The State Fund Section administers state funds used to reimburse owner/operators for the costs of remediating sites that have been contaminated by an oil release. The Colorado Petroleum Storage Tank Fund (State Fund) was created to help owner/operators pay for their remediation costs. Owner/operators pay fees that go into this Fund. According to the statute (Section 8-20.5-104, C.R.S.), the Petroleum Storage Tank Committee (Committee), with assistance from the Division, is required to establish procedures, practices, and policies governing reimbursements from the State Fund. The Committee is composed of seven members who have technical expertise and represent different stakeholder groups, such as companies that refine and retail motor fuels in Colorado, and companies that conduct remediation or install and repair underground and aboveground storage tanks. Committee members include the Division Director, the Executive Director of the Department of Labor and Employment, or his or her designee, and an owner/operator as permanent standing members. The remaining four members are appointed by the Governor for three-year terms.

State Fund assistance is available to *current or former property owners who bear no responsibility* for the contamination at their site and to *current or former owner/operators who are responsible* for the contamination and who have contributed to the State Fund through registration fees and surcharges, as discussed below. The amount that owner/operators can be reimbursed may be reduced if the owner/operator has failed to comply with specific tank regulations, including registration, release detection, release reporting, and tank closure requirements. Overall, reimbursement amounts are statutorily limited to \$2 million per release. Division staff are responsible for making recommendations to the Committee regarding reduction of remediation reimbursement amounts to owner/operators; however, the Committee has the discretion to decide which, if any, of the reductions to impose. Before the Division can pay remediation reimbursements for a site, the statutes (Section 8-20.5-209(2) and Section 8-20.5-304(2), C.R.S.), require owner/operators to prepare and submit a remediation budget for the site using cost guidelines that have been established by the Committee. Division staff then review reimbursement requests to ensure they are consistent with the established budget and corrective action plan.

## Fiscal Overview

The Division is almost entirely cash-funded by fees from the various activities it regulates. For example, revenue for the Petroleum Storage Tank Program consists primarily of registration fees and a surcharge fee. The registration fee of \$35 is due from the owner/operator of the site at the time of initial registration of the storage tank and during the annual renewal process. This fee is paid directly to the Division.

The surcharge fee is the Environmental Response Surcharge that is paid by petroleum distributors for each truckload (8,000 gallons) of petroleum product sold to retail gas stations in Colorado. The distributors are responsible for reporting and paying the surcharge to the Department of Revenue. This surcharge funds the Petroleum Storage Tank Fund (State Fund), as discussed above. According to the statute (Section 8-20-206.5, C.R.S.), the surcharge ranges from \$0 to \$100, depending on the fund balance in the State Fund. Statute specifies the surcharge amount to be charged depending on the amount of the available fund balance in the State Fund. The statute defines the available fund balance as the sum of current year revenue and the previous fund balance minus the sum of obligations approved by the Petroleum Storage Tank Committee. In Fiscal Year 2006 the surcharge was \$100. As of June 30, 2006, the fund balance in the State Fund was \$4.3 million. The Committee is evaluating the surcharge amount to determine if adjustments are needed.

The Division also receives funds from federal grants, including the Leaking Underground Storage Tank (LUST) Grant. The State is required to match 10 percent of the LUST Grant amount; and these funds make up the LUST Trust Fund, which can be used to cover remediation costs and the Division's personal service costs related to oversight of remediation activities. The following table shows the Division's revenue and expenditures from the Petroleum Storage Tank Fund and the LUST Trust Fund for Fiscal Years 2003 through 2006.

<b>Division of Oil and Public Safety Petroleum Storage Tank Program Revenue and Expenditures Fiscal Years 2003 Through 2006</b>						
		2003 <sup>5</sup>	2004	2005 <sup>5</sup>	2006	Percent Change (2003-2006)
<b>Revenue</b>	Petroleum Storage Tank Fund (State Fund) <sup>1</sup>	\$19,972,000	\$28,265,000	\$27,161,000	\$39,543,000	98%
	LUST Trust Fund Grants <sup>2</sup>	\$501,000	\$411,000	\$312,000	\$617,000	23%
	Other Federal Grants <sup>2</sup>	\$0	\$0	\$1,000	\$434,000	N/A
	<b>Total Revenue</b>	<b>\$20,473,000</b>	<b>\$28,676,000</b>	<b>\$27,474,000</b>	<b>\$40,594,000</b>	<b>98%</b>
<b>Expenditures</b>	Petroleum Storage Tank Fund (State Fund) <sup>3</sup>	\$25,898,000	\$24,984,000	\$27,673,000	\$35,138,000	36%
	LUST Trust Fund Grants <sup>3</sup>	\$1,213,000	\$1,520,000	\$1,173,000	\$2,050,000	69%
	LUST Trust Fund Grants (costs recovered) <sup>4</sup>	(\$603,000)	(\$1,317,000)	(\$940,000)	(\$2,116,000)	251%
	Other Federal Grants Expenditures <sup>3</sup>	\$3,000	\$0	\$0	\$164,000	N/A
	<b>Total Expenditures</b>	<b>\$26,511,000</b>	<b>\$25,187,000</b>	<b>\$27,906,000</b>	<b>\$35,236,000</b>	<b>33%</b>

**Source:** Colorado Financial Reporting System (COFRS) data.

<sup>1</sup> State Fund revenue include all revenue to the State Fund except those from the Leaking Underground Storage Tank (LUST) Trust Fund grants and other federal grants. LUST Trust Fund and other federal grant revenue are shown separately in the table. Pursuant to the statute (Section 8-20.5-103(1), C.R.S.), State Fund revenue sources include, among others, the surcharge, registration and annual renewal fees, federal funds, and civil penalties and fees collected by the Division. Fiscal Year 2006 revenue also include the \$4 million that was returned from the General Fund pursuant to H.B. 02-1391. H.B. 02-1391 allowed the State to borrow, for one time only, \$4 million from the State Fund and transfer the dollars to the General Fund to address budget shortfalls.

<sup>2</sup> LUST Trust Fund and Other Federal Grants Revenue only include the amount of federal funds drawn down by the Division during the fiscal year for the Petroleum Storage Tank Program, not the amount of the grant awards.

<sup>3</sup> State Fund, LUST Trust Fund, and Other Federal Grants Expenditures represent all respective program costs including personal services, operating costs, and statewide indirect costs.

<sup>4</sup> LUST Trust Fund grants (costs recovered) shows the costs recovered from the State Fund during the fiscal year. Costs recovered from the State Fund are credited against LUST Trust Fund grant expenditures.

<sup>5</sup> In Fiscal Years 2003 and 2005, State Fund expenditures exceeded revenue. According to the Division, this was due to increasing demand for State Fund dollars and a maximum surcharge rate of \$75 per tanker load. As of July 1, 2005, the maximum surcharge rate was increased to \$100 per tanker load in accordance with statute.

In addition to the revenue listed above, the Division also receives revenue from inspection fees for other programs within the Division. In Fiscal Year 2006 the Division's total revenue was about \$42 million and total expenditures were about \$36.8 million. The Division's expenditures included about \$31.3 million in remediation costs and about \$4.2 million in costs associated with staff salaries and benefits and operating expenses. In Fiscal Year 2006 the Division was appropriated 53.3 FTE.

## Audit Scope

This report discusses the Division's regulation of petroleum storage tanks and the remediation of petroleum contamination, including our review of the Division's tank registration, oil inspection, and remediation responsibilities. Additionally, we reviewed the Division's oversight of the Petroleum Storage Tank Fund and the federal Leaking Underground Storage Tank Trust Funds used to assist responsible owner/operators and innocent property owners with remediation costs. We reviewed statutory requirements, analyzed data, and interviewed Division and Department of Labor and Employment staff and Petroleum Storage Tank Committee members. We also surveyed storage tank registration, inspection, and remediation practices in Kansas, Nebraska, Nevada, New Mexico, Oregon, Utah, and Wyoming.

This report does not cover our review of the Division's boiler, explosive, carnival and amusement park, or public school construction sections, which will be included in a subsequent report.

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# Regulatory Activities

## Chapter 1

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### Background

The Division's Petroleum Storage Tank Program was established to comply with federal Environmental Protection Agency (EPA) regulations and enforce state statutes and regulations regarding petroleum storage tanks. According to the statute (Section 8-20-102, C.R.S.), "The Director of the Division of Oil and Public Safety shall make, promulgate, and enforce rules setting forth minimum and general standards covering the design, construction, location, installation, and operation of equipment for storing, handling, and utilizing liquid fuel products." The Division conducts on-site inspections of facilities with petroleum storage tanks to enforce state statutes and regulations and to protect public health and the environment. Inspections are intended to ensure that owner/operators comply with state statutes and regulations and that petroleum products sold to consumers are accurately measured and represented to customers. Examples of sites with petroleum storage tanks include retail gasoline stations and airports.

We reviewed the Division's Petroleum Storage Tank Program and found the Division needs to strengthen its regulation of petroleum storage tanks to improve owner/operator compliance with state statutes and regulations and to help protect the public health and the environment. Specifically, we identified concerns with the Division's registration, inspection, and enforcement functions, as discussed throughout this chapter.

### Registration

The statute (Section 8-20.5-102(1), C.R.S.) requires that:

Each owner or operator of an underground or aboveground storage tank shall register such tank with the Director of the Division of Oil and Public Safety within thirty days after the first day on which the tank is actually used to contain a regulated substance or, in the case of an aboveground storage tank, on or before July 1, 1993, or, thereafter, within thirty days after the first day on which the tank is actually used to contain a regulated substance. Each owner or operator shall renew such registration annually on or before the

calendar day and month of the initial registration for each year in which the storage tank is in use.

As discussed in the Description chapter, a \$35 registration fee for each tank is due at the time of initial registration and during the annual renewal process. Registration fees contribute to the Petroleum Storage Tank Fund (State Fund), which is used, in part, to assist owner/operators in covering costs related to remediation. Tank registration is necessary to ensure the Division is aware of all storage tanks in Colorado so that the facilities can be inspected for compliance with state tank regulations and that leakage problems can be identified and addressed timely. As of Fiscal Year 2006, about 4,700 sites with a total of about 12,500 tanks were registered with the Division.

We found the Division lacks sufficient statutory authority to ensure that all owner/operators are aware of and in compliance with registration requirements. We reviewed a sample of 76 owner/operators who applied for State Fund assistance between July 2004 and February 2006 for cleanup of releases that occurred between February 1987 and June 2005 to determine if their tanks were registered with the Division as required by the statute. All 76 owner/operators in our sample had applied for State Fund assistance and had failed to comply with one or more state regulations related to petroleum storage tanks. We found that 24 of the 76 (32 percent) owner/operators had one or more tanks that were not appropriately registered with the Division for one or more years. Of the 24 owner/operators, 2 had one or more tanks that were not registered over a 13-year period.

Unregistered tanks represent a risk to public health and the environment because the owner/operators may not be aware of tank regulations and requirements. Additionally, unregistered tanks make it difficult for the Division to identify all tanks needing inspection to ensure they are properly maintained and monitored to reduce the potential for a release. We identified one site that had three tanks that were not registered. There was a confirmed release at this site and none of the tanks had been registered prior to the release. Further, the tanks at this site had never been upgraded to comply with state standards which require all tanks be equipped with release detection and spill containment systems. This site was inspected in April 1998 but was never registered with the Division. Had these tanks been registered with the Division and undergone routine inspections, the violations may have been identified years earlier and the cost of the remediation may have been less.

Currently the Division relies on tank owner/operators to initiate the registration process, and the Division has no means of verifying that tanks are registered appropriately. This can be a problem if owner/operators are not aware that tanks must be registered with the Division or simply fail to register. The Division should identify ways to increase owner/operator awareness of registration requirements to

help ensure all tanks are registered. One option would be to work with the companies that sell storage tanks to provide information to the purchaser (i.e., the owner/operator) regarding the Division's registration requirements. Another option would be to have petroleum distributors require proof of registration from the owner/operator before filling their tanks. We found four states (New Mexico, Kansas, Utah, and Oregon) that require distributors to see proof of registration prior to selling petroleum. A similar requirement in Colorado to limit petroleum sales to only registered facilities would likely require a statutory change. By ensuring owner/operators register storage tanks, the State can better ensure that tanks are properly maintained, leaks are identified in a timely manner, and remediation costs are mitigated.

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### **Recommendation No. 1:**

The Division of Oil and Public Safety should identify and implement ways to increase owner/operator awareness of registration requirements and help ensure tanks are registered, pursuing statutory change as necessary. Options the Division should consider include:

- a. Requiring companies that sell storage tanks to notify purchasers of the Division's registration requirements.
- b. Requiring tank owner/operators to present proof of registration to petroleum distributors before purchasing petroleum products.

### **Division of Oil and Public Safety Response:**

Agree. Implementation Date: August 2007. The Division agrees with the recommendation to implement ways to increase owner/operator awareness of registration requirements. Since unregistered tanks represent a potential risk to public health and the environment, the Division performs outreach efforts in addition to waiting for owner/operators to initiate the registration process. The Division realizes that both proposed options (a and b) would require statutory changes that would make our rules more stringent than EPA's. However, the Division has identified and will implement an alternative method to increase owner/operator awareness of registration requirements. This includes seeking statutory changes to comply with the Underground Storage Tank Provisions of The Energy Policy Act of 2005 which includes provisions for prohibiting delivery to underground storage tanks that are ineligible to receive product (unregistered or not in compliance with underground storage tank regulations). The Division was already

considering these statutory changes as they are linked to funding received from EPA.

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## Inspections

The statutes require the Division to conduct inspections of petroleum storage tanks to ensure the tanks are in compliance with state regulations. Specifically, Section 8-20.5-204(4), C.R.S., states, “The Director of the Division of Oil and Public Safety or a designee shall make an on-site inspection of every new installation and every upgrading of an existing underground storage tank prior to the operational start-up of such tank to ensure that all of the standards established in this part 2 have been met.” Additionally, Section 8-20-223, C.R.S., states “It is the duty of the Director of the Division of Oil and Public Safety and the Director’s Deputies to inspect all containers or storage tanks from which products of petroleum to be used for illuminating or power purposes are retailed.” Section 8-20-223, C.R.S., does not specify a time frame for how often the inspections should occur. According to Division staff, the Division’s goal is to inspect tank sites every 18 months. Prior to April 2004, the Division’s goal was to inspect every retail tank site annually and every non-retail site biennially.

The Division has nine inspectors that oversee the installation and operation of oil tanks. Routine on-site inspections usually involve visually inspecting all tanks at a site and the lines that carry the petroleum to the dispensers, where possible, and dispenser hoses; testing the quality of petroleum products on a sample basis; measuring fuel dispensed from each nozzle; and calibrating the meters on fuel pumps as necessary. An oil inspection can take a few hours to an entire day depending on the number of tanks and dispensers at a facility, the number of problems found, and whether the inspector has to calibrate any fuel pump meters. Subsequent to the on-site inspection, the Division requires owner/operators to submit release detection records, typically for the year prior to the inspection. Owner/operators are required to maintain these records to demonstrate the tanks are being monitored for leaks. According to the Division, between Fiscal Years 2003 and 2006, on average, staff annually inspected about 2,200 of the approximately 4,700 sites (47 percent) registered with the Division.

We reviewed a sample of 38 registered sites with active petroleum storage tanks that had a confirmed petroleum release between July 2002 and January 2006 to assess the timeliness of routine inspections prior to the releases. We found that the Division’s inspections were not always timely, and in some cases did not occur at all. Specifically, we reviewed the frequency of inspections for the 25 tank sites that

should have been inspected annually, the 8 tank sites on a biennial inspection cycle, and the 5 tank sites on an 18-month inspection cycle and found:

- For the 25 retail sites that should have been inspected annually, the Division did not inspect 13 of the sites within the targeted time frames. These 13 sites were inspected, on average, about every 16 months, with inspections ranging from 13 to 24 months.
- For the 8 non-retail sites that should have been inspected biennially, one was not inspected at all prior to the release. This tank site had been registered with the Division for about 30 months.
- For 3 of the 5 sites that should have been inspected every 18 months, we found one was not inspected for about 21 months and one was not inspected for about 27 months. In the third instance, the site was never inspected prior to the release, even though it had been registered with the Division for about 45 months.

Timely inspections are important to ensure that leaks are detected as soon as possible. A report released by the U. S. Government Accountability Office in May 2002 stated that “according to EPA’s managers, only physical inspections can confirm whether tanks have been properly upgraded and are being properly maintained and operated.” This is evidenced by the fact that the Division often finds a suspected release during its inspections. According to the Division, approximately 37 percent (48 of 130) of the suspected releases in Fiscal Year 2006 were identified during an inspection.

According to information provided by the Division, about 1,020 of the nearly 3,020 (34 percent) oil inspections conducted in Fiscal Year 2006 identified field violations. These violations included unregistered tanks; cracked, worn, or leaking hoses; water in tanks; and missing emergency vents or release detection records. Due to the seriousness of some of these violations, it is important that oil inspections occur on a timely basis to identify and correct violations before harm occurs to public health and the environment. In the past, the Division tried to address timeliness concerns by implementing a risk-based approach to its inspection schedule. Under this approach, the goal was still to inspect all retail sites annually and non-retail sites biennially; however, inspectors would test only a few of the meters at each site. While this approach was risk-based with respect to the meters checked, it did not cut down on the number of sites that inspectors had to inspect each year. The Division discontinued this approach in July 2004 and went back to checking all meters because according to Division staff, the Division did not believe its risk-based inspection approach provided adequate consumer protection. Although the number of tanks requiring an inspection has increased only slightly from approximately

12,100 in Fiscal Year 2003 to about 12,500 in Fiscal Year 2006 (a 3 percent increase), the General Assembly has eliminated one of the Division's inspector positions from its budget since Fiscal Year 2004, leaving only nine inspectors. The Division has been working to address the timeliness of inspections and has increased the number of inspections it performs by 58 percent since Fiscal Year 2003. However, since the Division's resources are limited and Division staff are also responsible for following up on violations and enforcing sanctions (as discussed later in this chapter), it is important that the Division continue to streamline and improve the timeliness of the oil inspection process.

We identified several options the Division could consider to increase the efficiency and improve the timeliness of its oil inspections. One option would be for the Division to require owner/operators to hire a qualified company to check and calibrate all meters annually and report the results to the Division. We attended four inspections conducted by the Division and observed that the most time-consuming part of an inspection is measuring the fuel dispensed from each nozzle and calibrating the meter if the measurement is incorrect. Meter measurement consists largely of filling a calibration measurement device with fuel from each nozzle to determine if the pump is dispensing the right amount of fuel. According to the Division, its inspectors conduct an average of approximately 26,300 meter measurements annually. The Division already approves companies to perform meter calibrations. Owner/operators can use these companies when a meter needs to be repaired or when the owner/operator wants to check the accuracy of its meters outside of an inspection. Additionally, we found that other states, such as Wyoming, Nevada, and Nebraska, certify outside consultants to perform meter calibration and maintenance. Reducing the amount of time inspectors spend checking meter calibrations would allow the Division to focus more attention on areas related to release detection and monitoring. Requiring that owner/operators hire a company to conduct meter checks and calibrations would likely require a statutory change.

Another option would be for the Division to reconsider a more robust risk-based inspection approach that uses various types of data, such as site location, the risk of a leak affecting groundwater, and past history of compliance, to identify sites that pose the greatest risk to public health and the environment. For sites that pose less of a risk, the Division could consider options such as extending the inspection cycle to 24 months but continue to request and review release detection records on an ongoing basis.

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## **Recommendation No. 2:**

The Division of Oil and Public Safety should identify options for streamlining and improving the timeliness of the oil inspection process within existing resources. Options the Division should consider include:

- a. Requiring owner/operators to hire a qualified company to perform meter measurements and calibrations annually and report the results to the Division. Statutory change should be pursued as necessary.
- b. Implementing a more robust risk-based approach to determine site inspection frequency, considering factors such as site location, past history of compliance, and the risk of a leak reaching groundwater.

## **Division of Oil and Public Safety Response:**

Disagree. The Division disagrees with the need for this recommendation. As the auditor noted, Division personnel inspected 3,000 facilities in 2006. This means that we inspected 63.5% of the total number of facilities during Fiscal Year 2006 which is very close to our stated goal of 66.6% of all registered facilities. The Division's goal is to inspect every facility once every 18 months. Further, inspections year to date in Fiscal Year 2007 indicate that we are on target to continue inspections at that rate. We developed the streamlining measures in 2005 to allow additional time for our inspectors to perform 3,000 inspections in Fiscal Year 2006. The streamlining measures were not in place prior to Fiscal Year 2006.

### ***Auditor Addendum:***

*The focus of this recommendation is to provide options for using Division resources more efficiently. These options would allow the Division to assign staff to other regulatory activities, such as following up on site violations and monitoring release detection records, as discussed in Recommendation No. 3.*

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## **Enforcement**

The Division communicates violations identified during on-site facility inspections to the owner/operator through an inspection report. Violations can relate to the site itself or to the owner/operator's failure to provide complete release detection records. Examples of site violations could include installing a tank without Division approval, installing tanks that do not meet regulatory requirements, or failing to report a suspected release when the tank system fails a leak detection test or when a spill occurs. Inspection reports list any violations found during the inspection and typically provide a date by which the owner/operator should correct the problem. After correcting the violation(s), the owner/operator is required to notify the Division in writing. Division staff reported that during Fiscal Year 2006, inspectors identified

an average of one or more on-site violations in about 34 percent of inspections and inadequate release detection practices or records in approximately 22 percent of inspections.

According to the Division's enforcement policies, when the owner/operator does not notify the Division that a violation has been corrected, staff are required to send the owner/operator a follow up letter giving the owner/operator 30 days to correct the violation or send in the appropriate records. The follow up letter also notifies the owner/operator of potential fines if the owner/operator fails to comply. If there is no response to the letter, Division policy requires staff to send out a certified Offer of Settlement. The Offer of Settlement provides a lower fine amount which the owner/operator can pay if the owner/operator agrees to remedy the violation within 30 days. If the owner/operator pays the settlement amount and corrects the violation, no further action is taken. If the owner/operator does not pay the settlement amount and correct the violation, a Notice of Violation is sent notifying the owner/operator that a penalty of \$5,000 per tank per day will be imposed and statutorily authorized enforcement proceedings will begin.

We reviewed the Division's enforcement practices and found that, overall, the Division does not consistently follow its enforcement policies when it finds violations or assess penalties against owner/operators who fail to correct violations or provide release detection records. Specifically, we reviewed a sample of oil inspections conducted at 32 facilities by the Division between February 2001 and November 2005 and found compliance issues at 11 (34 percent) of the inspected facilities, including:

- Of the 11 facilities, 7 had one or more site violations, such as no exterior emergency stop switch for the dispensers or a defective dispenser hose. As of the time of our audit, the owner/operators for five of these facilities had not submitted written documentation to the Division that the violations had been corrected. In addition, for these five facilities the Division did not send follow up letters, Offers of Settlement, Notices of Violation, or pursue enforcement proceedings.
- Of the 11 facilities, 5 failed to submit complete monthly release detection records for the entire period requested. For two of the five facilities the Division accepted the incomplete records and did not send a follow up letter to request the missing documentation, Offer of Settlement, Notice of Violation, or pursue enforcement proceedings. For the remaining three facilities, the Division sent follow up letters and the owner/operators submitted records, however, they were not the records the Division had requested. For example, in one case the Division requested release detection

records from March 2002 through February 2003, yet the owner/operator provided only 10 of the 12 months requested.

Inspections are the primary tool used to identify noncompliance with tank regulations. Therefore, by not following up to ensure violations are corrected, the Division cannot ensure tanks are operating safely. Additionally, release detection systems are a key factor in helping to identify petroleum leaks, particularly in underground storage tanks. According to the Division, leaks are often found as a result of the Division's review of release detection records. Without complete release detection records, the Division cannot ensure release detection systems are operating and helping to identify leaks.

The Division needs to take several steps to ensure owner/operators comply with the state statutes and regulations regarding underground storage tanks. First, the Division should enforce current procedures requiring staff to follow up on site violations and with owner/operators who fail to provide complete release detection records timely. The Division should document in the site's file any follow-up that occurs.

Second, the Division should enforce penalties for failure to comply with storage tank regulations, particularly in those cases where owner/operators are repeatedly noncompliant or late in submitting release detection records. While the Division has established a range of penalties for violations, these penalties are rarely enforced. According to the Division, since Fiscal Year 2004, it has assessed penalties totaling \$21,000 against only five owner/operators for failure to correct violations identified during inspections. As mentioned previously, some type of violation was found at about 1,020 of the nearly 3,020 (34 percent) inspections conducted by the Division during Fiscal Year 2006. Owner/operators who fail to correct violations and are not penalized receive an unfair business advantage over other owner/operators who spend their own dollars to correct deficiencies identified through the Division's inspections. Further, as discussed previously, owner/operators who repeatedly violate state statutes and regulations place public safety at risk and likely contribute to higher remediation costs. Division staff should comply with follow up procedures to ensure violations are corrected and noncompliant owners/operators are penalized.

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### **Recommendation No. 3:**

The Division of Oil and Public Safety should improve owner/operator compliance with state laws and regulations by ensuring that staff comply with Division policies and follow up on site violations and inadequate or late release detection system reporting. Follow-up actions should be documented in the Division's files. In addition, the Division should assess penalties against owner/operators who

repeatedly fail to correct violations in a timely manner, such as those who consistently fail to comply with storage tank regulations and release detection system records requests.

### **Division of Oil and Public Safety Response:**

Agree. Implementation Date: December 2007. The Division agrees with the recommendation to strengthen its enforcement policies to help ensure owner/operator compliance with state laws and regulations. Although the Division may not have always issued fines for violations, the Division has implemented alternative methods of enforcement to ensure owner/operators comply with state laws and regulations, and achieve compliance goals. Enforcement actions have included the use of settlement agreements requiring owner/operators to install specific release detection or release prevention equipment in lieu of fines, shutting down unsafe dispensers and storage tank systems, shutting down the sale of off-spec petroleum products, shutting down sales from dispensers that are not operating within tolerance limits, and requiring immediate precision tank and line tightness testing on tanks at facilities that have not performed any release detection prior to allowing them to continue operating. Even though violation fines may not have been assessed, the lost sales revenues (in some instances at multiple locations for more than a week) or costs associated with installing specific equipment (e.g., automatic tank gauges) are significantly higher than some enforcement fines, and often have been more effective at achieving compliance goals within a short timeframe. However, the Division will reevaluate resource utilization and procedures on enforcement, and intends to fully implement this recommendation within a year.

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# Remediation Activities

## Chapter 2

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### Background

The Division of Oil and Public Safety is charged with protecting public health and the environment by overseeing the remediation or cleaning up of contamination caused by leaking petroleum storage tanks. Studies prepared by the Center for Disease Control and Prevention have shown that remediating contamination from leaking underground storage tanks is important for maintaining the quality of groundwater. Leaking underground storage tanks have been identified as one of the most serious threats to groundwater quality. About 50 percent of the nation's population, and a full 100 percent of people living in rural areas, rely on groundwater for drinking water. Contaminants in drinking water have been shown to cause cancer and harm developing children. Leaking underground storage tanks can also cause toxic vapors, fire hazards, and reduce property values.

The Division is responsible for enforcing state statutes and regulations related to petroleum releases and remediation. State laws require that when a petroleum release occurs and results in contamination, the site be remediated. The Division's remediation activities include reviewing, approving, and monitoring owner/operators' cleanup of petroleum contamination. This involves overseeing the development and approval of site characterization reports and corrective action plans prepared by the owner/operator. The site characterization report discusses the extent of contamination at a site, and the corrective action plan details the owner/operator's plan to remediate the site. The Division also requires owner/operators to submit a budget for the remediation costs, which must be reviewed and approved by the Division. Owner/operators can apply for State Fund assistance to help them pay for their remediation expenses once their budgets have been approved and they have begun incurring expenses. The Petroleum Storage Tank Committee (Committee) determines the amount owner/operators are eligible to receive in State Fund assistance. The following table shows the number of "active" remediation sites (i.e., sites where remediation is in progress) and the number of sites closed because no further action was needed for Fiscal Years 2003 through 2006.

<b>Division of Oil and Public Safety    Petroleum Release Remediation Sites    Fiscal Years 2003 Through 2006</b>					
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Percent Change 2003-2006</b>
<b>Active Remediation Sites</b>	1,500	1,500	1,400	1,400	-7%
<b>Sites Closed</b>	241	239	224	214	-11%
<b>Source:</b> Division of Oil and Public Safety data.					

Once the Division has approved a site characterization report and a corrective action plan, the statute (Section 8-20.5-209, C.R.S.) authorizes the Division to monitor remediation activities to ensure owner/operators' compliance. The Division's primary method for monitoring remediation activities is to review monitoring reports submitted by owner/operators, typically on a quarterly basis, as required by the corrective action plans. These reports are prepared manually by the owner/operator and include self-reported information related to remediation activities, such as a description of the remediation systems in place; test results from soil, water, or air samples; and a log of the owner/operator's monitoring of the remediation systems. The Division reviews these reports to monitor the owner/operator's progress in remediating and reducing contamination at the owner/operator's site.

Additionally, the Division developed the Remedial System Inspection Program (RSIP Program) in 2003 to ensure that remediation systems are installed and operated in accordance with the owner/operator's corrective action plans and that State Funds are being used effectively. Division staff identify owner/operators who have been reimbursed \$100,000 or more from the State Fund and staff inspect these sites periodically through this Program. Sites with reimbursements less than \$100,000 are not included in the RSIP. The Division schedules the inspections to coincide with the owner/operator's quarterly monitoring activities. Site visits include inspecting the remediation equipment to ensure it is operating in accordance with the corrective action plan, observing sampling and field techniques performed by the owner/operator or his or her remediation consultant, verifying information supplied by the owner/operator in maps and other sources, and determining if the owner/operators are applying site-specific health and safety plans. Additionally, Division inspectors take a split sample of the groundwater samples taken by the owner/operator. The Division sends its portion of the split sample to the Division's contracted lab to measure the level of contamination in the sample. The Division's results are then compared with the owner/operator's results. Split samples are

discussed in more detail later in this chapter. In Fiscal Year 2006 the Division inspected 106 active remediation sites through the Program.

We reviewed the Division's practices for overseeing the remediation of contamination resulting from leaking petroleum storage tanks. In addition, we contracted with a remediation consultant, ESN Rocky Mountain, to review the effectiveness of the Division's remediation monitoring activities. Our audit found the Division is conducting inspections in compliance with regulatory standards and making progress in reducing contamination for some of the remediation projects we reviewed. For a sample of 24 remediation sites that were active during 2006 and reviewed by our consultant, 13 sites appeared to be making progress in reducing the level of contamination. For another 3 of the 24 sites, results were mixed and contamination levels have gone up and down. For 6 of the 24 sites it is still too early in the process to assess the progress that has been made. Finally, for 2 of these 24 sites, contamination levels have remained stable and do not appear to be declining. The Division has identified these sites for follow-up and is working with the owner/operators for these sites to determine the reason for the lack of progress.

As part of reviewing the progress made toward reducing contamination, we identified areas where the Division can improve its oversight of remediation activities. Additionally, we identified areas where the Division could strengthen its monitoring of remediation costs. We discuss these issues in the remainder of this chapter.

## Timelines for Required Reports and Plans

Division regulations require owner/operators to notify the Division within 24 hours of a suspected or confirmed release. If a release is suspected, within 7 days the owner/operator must confirm with the Division when a release occurs. Once a release has been confirmed, Division rules require the owner/operator to submit a site characterization report within 90 days of the date of the confirmed release. The site characterization report describes the level of contamination at the site and indicates whether remediation is necessary. Once a site characterization report has been approved by the Division, the owner/operator is required to submit a corrective action plan. According to Division rules, the corrective action plan must be submitted within 150 days of the date of the confirmed release and describe the remediation methods that will be used on the site. If the Division determines that a site characterization report or corrective action plan contains insufficient information, the Division will require the owner/operator to submit revised reports and plans until they are complete and approved.

We reviewed a sample of files for 24 of the 1,245 petroleum release sites that were confirmed between August 1999 and November 2005 and found that the owner/operators in our sample were not timely in submitting their site characterization reports and corrective action plans. None of the owner/operators for these 24 sites submitted an acceptable site characterization report within the 90-day requirement or an acceptable corrective action plan within the 150-day requirement. On average, it took owner/operators about 280 days to submit the first site characterization report and about 400 days to submit the final approved site characterization report. Additionally, it took, on average, about 600 days (or about 1.6 years) for the 24 owner/operators to submit the final corrective action plan. For one site it took more than five years for the site characterization report to be approved and almost six years for the corrective action plan to be approved. Division records indicate that staff were in communication with these owner/operators prior to their submission of the required documents. However, delays in developing an appropriate corrective action plan may also delay remediation activities, since typically, remediation does not begin until there is an approved plan.

One explanation for delays in submitting appropriate site characterization reports or corrective action plans is related to the complexity of the contamination sites. One example of a condition that may increase a site's complexity is contamination that has spread beyond the owner's property line, or off-site. When contamination spreads off-site, the owner/operator must obtain permission from the other property owners to install monitoring wells, which can take a significant amount of time. Another example of a condition that may increase a site's complexity is the presence of "free product," or petroleum that has not dissolved in groundwater and is instead floating on the surface of the water. The presence of free product may make it more difficult to define an appropriate remediation method because it is difficult to map the distribution and extent of the free product, and the number of methods available to clean up free product is limited. Of the 24 sites we reviewed, 11 had off-site contamination issues, 3 had free product present at the site, and 2 had both off-site contamination and free product present.

Although some of the sites in our sample had complexities that may have made it difficult for the owner/operators to meet required time frames, we found that sites without complexities also did not meet deadlines. For example, for the sites in our sample where contamination remained on the property, we found that it took on average almost 200 days to submit the site characterization report and about 530 days to submit the corrective action plan. As mentioned earlier, Division rules require the site characterization report be submitted within 90 days and the corrective action plan within 150 days of the confirmed release.

A second reason why a site characterization or corrective action plan may not meet required timelines is that the Division has authorized one or more extensions. Owner/operators can request an extension from the Division to prepare their site characterization reports and corrective action plans. We found extensions are routinely granted for a period of one week up to 90 days. We also found the owner/operators in our sample were granted, on average, three extensions, with one site receiving as many as nine extensions. In addition, the Division does not always ensure owner/operators provide justification when an extension is requested. For five of the sites we reviewed, we could find no evidence in the files that the owner/operator provided justification for the extension. It was also unclear from our review of the files whether the Division had determined that the explanations provided for the extensions were reasonable. One site provided the same justification for five separate 60-day extensions.

The Division is authorized to assess penalties when owner/operators do not submit appropriate site characterization reports and corrective action plans timely. We found that for our sample, the Division did not typically take enforcement actions against owner/operators who failed to meet established deadlines. For the 24 sites we reviewed, the Division sent final request letters to 11 of the owner/operators for site characterization reports and 2 of the owner/operators for corrective action plans. According to Division records, enforcement actions were initiated against two owner/operators in our sample.

The Division should take steps to improve the timelines for submitting site characterization reports and corrective action plans. First, the Division should evaluate the current 90- and 150-day time requirements to determine if these deadlines are reasonable for all sites and whether there are other options for obtaining these reports and plans which would be more appropriate. For example, the Division could make a preliminary assessment of the risks associated with a site and establish different time requirements for high- and low-risk projects. Under this approach, the Division could also set interim deadlines for owner/operators when appropriate. Recognizing that each site may be different, another option would be to require that owner/operators propose timelines based on the conditions at their site, which must be approved by the Division. The Division could then hold owner/operators accountable for meeting their proposed deadlines.

Second, the Division should review its policy related to extensions, impose limits on the number and length of extensions that an owner/operator can receive, and require the owner/operator to provide justification and documentation when requesting an extension. The Division should review the justification and documentation for the extension request to ensure the extension is appropriate. Finally, the Division should consistently pursue enforcement actions against those owner/operators who are not compliant and who are not responsive to the Division's follow-up requests. The

Division has indicated that its approach in the past has been to work with the owner/operators to encourage compliance rather than pursue enforcement actions.

Although this approach may be an appropriate course of action in most instances, for those owner/operators who continually fail to comply with Division requirements, enforcement actions, such as penalties, may be needed. Owner/operators who are not responsive to the Division's requests and are not penalized receive an unfair business advantage over other owner/operators who spend their own resources to comply with the law. Further, remediation activities do not typically begin until a corrective action plan has been approved.

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### **Recommendation No. 4:**

The Division of Oil and Public Safety should hold owner/operators accountable for meeting deadlines for submitting site characterization reports and corrective action plans by:

- a. Evaluating options for revising the current 90- and 150-day deadlines, including establishing deadlines on the basis of project risks, setting intermediate deadlines for owner/operators to submit project reports, or requiring that owner/operators propose deadlines, to be approved by the Division, based on the conditions at their site. The Division should then hold owner/operators accountable for meeting these deadlines.
- b. Reviewing and revising its policies related to extensions and imposing limits on the number and length of extensions that an owner/operator can receive and requiring the owner/operator to provide justification and documentation when requesting an extension. The Division should review the justification and documentation to ensure they are appropriate.
- c. Consistently taking enforcement actions, such as assessing penalties, against owner/operators who continually fail to comply with Division requirements and are not responsive to the Division's requests.

### **Division of Oil and Public Safety Response:**

- a. Agree. Implementation Date: January 2008. The Division agrees with the need to evaluate options for revising the 90- and 150-day deadlines. Options evaluated will include establishing deadlines based on risks as well as requiring that owner/operators propose deadlines (with interim reporting deadlines), to be approved by the Division. Owner/operators would then be held accountable for meeting these deadlines.

- b. Disagree. The Division believes that its current policies related to extensions are appropriate. The Division has established relatively short timeframes for report submittals in order to ensure close communication between the owner/operators and staff. Whatever extensions are deemed necessary by the staff are granted as part of the process, as outlined in regulations. Because of this, reports submitted within the approved extensions are assumed to be submitted within Division timelines. The Division does require that owner/operators provide justification and documentation when requesting an extension.
- c. Disagree. The Division believes that it already takes enforcement actions against owner/operators who fail to comply with Division requirements. A final request letter is sent to the owner/operator when a required report is not received in a timely manner, as outlined in the Division's enforcement policy. The Division has sent 196 enforcement letters and/or settlement agreements concerning site characterization report and corrective action plan issues. Percentage reductions have been imposed by the Petroleum Storage Tank Committee for approximately 100 events for non-compliance with site characterization report and corrective action plan submittal requirements.

#### ***Auditor Addendum:***

*Our review focused on enforcement actions taken with respect to a sample of 24 remediation sites. For 5 of the 24 sites, we could find no evidence in the Division's files that the owner/operator provided justification for the extension. For the other sites in our sample, when explanations were provided in the files, it was unclear whether the Division assessed the reasonableness of these explanations. Additionally, as the report notes, all 24 owner/operators in our sample failed to meet the 90- and 150-day deadlines and enforcement actions were initiated against only 2 of the 24 owner/operators.*

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## **Remediation Systems**

There are different types of systems that can be used to remediate a contaminated site. Generally, these include chemical or biological destruction systems, mechanical (also called active or physical) systems, or a combination of these systems. The type of system used at a particular site depends on various factors, including the type of soil, the extent of the contamination, the types of contaminants involved, and the risk of contaminants reaching drinking water. We reviewed the different types of systems used to remediate contaminated sites and found the Division could improve

its monitoring of mechanical systems. Many mechanical systems are designed to run on a continuous basis until the contamination has been cleaned up, while others are designed to run periodically. Owner/operators are required to include information on the remediation systems being used on their sites in the quarterly monitoring reports submitted to the Division. These reports are prepared manually by the owner/operator and should include a log of operating conditions as observed by the owner/operator or his or her remediation consultant. We found that the Division needs more complete and comprehensive information on the operations of these mechanical remediation systems to monitor them appropriately.

We reviewed Division files, including quarterly monitoring reports, for a sample of 24 active remediation sites and found that owner operators did not always submit information needed for the Division to adequately assess the progress of remediation. Of the 24 sites, 14 had mechanical systems in place. For 3 of the 14 sites with mechanical systems, we also conducted on-site reviews with Division inspectors during their routine site inspections. For our sample, we found that the Division was not able to tell from the monitoring reports whether the owner/operators are complying with their corrective action plans and ensuring that mechanical remediation systems are operating as intended in the plans. Specifically, at two of the sites we visited, we found the mechanical systems were not running at all, and at the third site, the mechanical systems were only partially running. Although the monitoring reports for these sites indicated that the systems were not working at times, it was not possible to tell exactly when the systems were down and for how long. For one site in our sample, inspectors found during routine inspections that the mechanical system was down three different times. However, the monitoring reports submitted by the owner/operator for this site indicated, in error, that the system was operating at the times the inspectors found the system was down.

We reviewed the format for the quarterly monitoring reports and found that these reports are not standardized and do not require owner operators to submit consistent and complete data. As discussed above, monitoring reports should include a log of the operating conditions at a site. We found that some reports included a daily log of operating activities, while others included weekly logs. When the reports indicated that a system was down, the owner/operators did not typically include details such as the length of time the system was down or whether the system was fully functioning again. Since reports are not standardized, the Division does not have sufficient information to assess whether mechanical systems are operating consistently and efficiently and whether remediation is progressing as intended by the corrective action plan. During the audit, the Division began developing standard reporting requirements for owner/operators. We reviewed the new reporting requirements and found that the new requirements appear to address the concerns we identified.

When mechanical systems are not operating in accordance with corrective action plans, remediation may be delayed, which can result in increased remediation costs for the owner/operator as well as the State. It is important the Division have an independent, objective source of data on how efficiently and effectively remediation systems are working, if owner/operators are complying with corrective action plans, and if remediation is progressing on schedule. Periodic inspections of some sites and quarterly monitoring reports are currently the Division's only means of monitoring the effectiveness of remediation systems. Therefore, the Division should continue its development and implementation of standard reporting requirements which would help the Division track when mechanical systems are down and whether systems are operating in accordance with corrective action plans, following up with owner/operators as necessary. The Division should also consider using its authority to assess penalties or sanctions against owner/operators who have systems that are repeatedly down. According to the Division, it has not penalized owner/operators for having systems that are continually not operating. Alternatively, the Division could recommend a percent reduction in remediation cost reimbursements when owner/operators apply for State Funds. Currently the Division recommends a percentage reduction when an owner/operator fails to implement a corrective action plan, but not when the owner/operator fails to keep its remediation system operating.

Finally, the Division should consider requiring owner/operators to maintain an independent, objective source of data on their mechanical systems. One option the Division could consider would be to use data loggers, which are instruments that are attached to each major component of the remediation system and track and record the period of time each component is running. According to the Division, many systems already have data loggers in place. The owner/operators could use the information from the data loggers to prepare quarterly monitoring reports and maintain the records for review by the Division if problems arise.

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## **Recommendation No. 5:**

The Division of Oil and Public Safety should ensure that it receives sufficient information to adequately assess the progress of remediation by:

- a. Continuing its development and implementation of standard reporting requirements to help track when mechanical systems are down and whether systems are operating in accordance with corrective action plans. The Division should follow up with owner/operators as necessary.
- b. Applying sanctions when owner/operators fail to keep their systems operational, such as using penalties or percent reductions in State Fund assistance.

- c. Considering requiring owner/operators to install an independent data source, such as a data logger, on all major components of a remediation system and use this information to prepare quarterly monitoring reports and maintain the records for Division review if problems arise.

## **Division of Oil and Public Safety Response:**

Agree. Implementation Date: June 2007.

- a. Agree. Reviewing monitoring and operation/maintenance reports is the Division's only means of monitoring the effectiveness of remediation systems. Therefore, the Division began developing a standardized reporting format in 2005 for groundwater monitoring and operation/maintenance activities. This draft reporting format was nearly complete at the time of the audit and will be completed this year. The Division of Oil and Public Safety will conduct a stakeholders meeting regarding the groundwater monitoring and operation/maintenance activities reporting format. The information in this report will allow the Division to identify system operation data. The Division will continue to follow-up when systems are not operating according to design for reasons that are not justified. Although one site with a non-operational system was visited during the audit that the corresponding monitoring report inaccurately noted was operating, it has been the experience of Division staff that this is not a common issue. It can be identified in most situations whether sites are meeting cleanup goals by evaluating decreases in contaminant concentrations over time (meeting milestones).
- b. Agree. Although the Division currently has the option to identify percentage reductions to reimbursement from the Petroleum Storage Tank Fund and/or implement enforcement, the Division believes it is important that remediation systems are effectively operating whether or not a site is eligible to the Petroleum Storage Tank Fund. The Division will implement these options when justifiable.
- c. Agree. The Division will consider requiring owner/operators to install an independent data source, such as a data logger, on all major components of a remediation system and use this information to prepare quarterly monitoring reports and maintain the records for Division review if problems arise.

## Remediation Inspections

As discussed previously, through the Remedial System Inspection Program (RSIP Program) Division staff periodically inspect sites where the owner/operator has been reimbursed \$100,000 or more from the State Fund for remediation costs. Site visits include inspecting the remediation equipment to ensure it is operating in accordance with the corrective action plan and observing sampling and field techniques performed by the owner/operator or his or her remediation consultant. Additionally, Division inspectors take a split sample of the groundwater samples collected by the owner/operator. A split sample is a sampling technique in which the owner/operator, or his or her remediation consultant, pulls a sample of groundwater from a monitoring well during the Division's site visit, and the Division takes part of the sample and uses it to conduct its own testing. The purpose of split sampling is to allow the Division to make an independent assessment of the quality of the owner/operator's test results and the progress of remediation. The owner/operator submits its sample to a lab of its own choosing to test for contaminants, while the Division submits its sample to a different lab for testing. The Division then compares the test results.

We reviewed the Division's RSIP and identified areas where the Program can be strengthened, specifically with respect to split samples. First, we found the Division is not using the split sampling process as effectively as it could. On the basis of our review, it is unclear how the Division uses split samples to monitor the quality of the owner/operators' sample results and thus, the level of contamination at a site. Currently the Division does not follow up with owner/operators when there are significant differences between the Division's lab results and the owner/operator's lab results. According to the Division, a primary purpose of taking split samples is to provide a "sentinel" effect to help ensure that owner/operators accurately report their findings. The Division does not intend to compare its lab results on the split sample with the owner/operators' and investigate or resolve any differences. However, since the Division does not follow up when differences are found and there are no consequences for the owner/operator, the Division is not maximizing the monitoring value of the split sample process.

Second, the Division should improve the guidance it provides to owner/operators on the collection of split samples. Sample results can vary depending on the method used to collect the sample and the location from which the sample is taken. For example, groundwater samples taken at the source of contamination will show much higher levels of contaminants than samples taken farther from the contamination source. In addition, water taken from deeper levels will likely show less contamination than water taken closer to the groundwater table. During our on-site visits, we observed that the owner/operators' remediation consultants drew split

samples using different methods. For example, at one site the consultant used a bailer for sampling. The bailer is a long tube that is filled with water, and samples can be drawn from the bottom of the tube or from the top. Typically, the water at the bottom of the tube is cleaner than the water at the top of the tube. At this site, we observed that the consultant was not consistent in ensuring that both the Division's and the owner/operator's samples were taken from either the top or the bottom. As a result, the Division's and the owner/operator's test results may differ. Although the Division has prepared sufficient guidance for collecting samples in general, the guidance is not specific enough for collecting split samples to ensure that samples are taken in a consistent manner. It is important that samples be collected using similar methods that have been approved by the Division to ensure the accurate measurement of the remediation progress and the quality and comparability of test results.

Finally, the Division should establish standards for analyzing split samples. There are two standard methods accepted by the remediation industry that can be used to analyze samples. Although both methods are acceptable, the same method should be used when testing split samples to ensure that results are comparable. We found that the Division does not ensure that its method and the consultant's method are consistent when testing samples. For some of the split samples we reviewed, the Division's lab used one testing method and the consultant's lab used a different method. This was likely the cause of significant differences in the test results for the two samples. Additionally, the Division should establish criteria that can be used when comparing lab results to identify those instances when differences in the results warrant additional evaluation of the data and potential follow-up with the owner/operator and consultant.

Split sampling can be a useful tool to monitor the quality of owner/operators' test results and the progress of remediation. Therefore, it is important that the Division reevaluate the purpose of the split sampling process to maximize the value of this process and to use it most effectively. If the Division decides to use split samples to monitor the quality of owner/operator's test results, the Division should improve its guidance on how to collect split samples and establish standards for analyzing any discrepancies between the Division's and the owner/operators' sampling results.

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## **Recommendation No. 6:**

The Division of Oil and Public Safety should strengthen the Remedial System Inspection Program by reevaluating the purpose of the split sampling process to maximize the value of the process and to use it most effectively. If the decision is made to use split samples to monitor the quality of owner/operator test results, the Division should improve its guidance on how to collect split samples and establish

standards for analyzing samples. This includes ensuring that owner/operators use the same method as the Division to analyze samples and establishing criteria that can be used when comparing lab results to identify those instances when differences in the results warrant additional evaluation of the data and potential follow up with the owner/operator and consultant.

### **Division of Oil and Public Safety Response:**

Agree. Implementation Date: October 2008. The Division agrees that there is an advantage in following up with an owner/operator when there are significant differences between the Division's lab results and the owner/operator's lab results and had planned to implement this within the next few years. The Division will evaluate the criteria for determining significant differences, split sampling collection methodology, and analysis. The purpose of the Division's RSIP split sampling program to-date has been to provide a sentinel effect to help ensure that owner/operators accurately report their findings and collect data on chemicals being evaluated as potential chemicals of concern. Data collected from RSIP program split samples concerning methyl tertiary butyl ether prevalence and concentrations was instrumental in the development of methyl tertiary butyl ether regulations that were implemented in May of 2005. During 2006, the Division worked with EPA to evaluate RSIP program split samples concerning ethylene dibromide concentrations and prevalence.

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## **Remediation Costs**

According to Section 8-20.5-104(1) and (4), C.R.S., the Petroleum Storage Tank Committee, with assistance from the Division, is required to "establish procedures, practices, and policies governing the form and procedures for applications to the Petroleum Storage Tank Fund [State Fund] for reimbursement compensation." On average, about \$22 million is reimbursed annually to owner/operators from the State Fund. We reviewed the controls used by the Division and the Committee to ensure that costs are contained and only legitimate claims are reimbursed. Overall, we found problems in several areas including the processes used to determine State Fund eligibility, recover costs from owner/operators, and monitor expenditures.

## State Fund Eligibility

The Colorado Petroleum Storage Tank Fund (State Fund) was created under Section 8-20.5-103, C.R.S., to help owner/operators pay for their remediation costs. State Fund assistance is available to ***current or former property owners who bear no responsibility*** for the petroleum contamination occurring at their sites and to ***current or former owner/operators who are responsible*** for the contamination at their site and who have contributed to the State Fund through the surcharge and tank registration fees, as discussed in the Description chapter of the report. Owner/operators who are eligible for State Fund assistance must use their own funds to cover the first \$10,000 of remediation costs, up to \$25,000 of third-party liabilities (e.g., personal injury or property damage), any costs exceeding the Division's \$2 million reimbursement cap per release, any costs not reimbursed by the State Fund due to noncompliance issues, and unallowable costs (e.g., costs exceeding established cost guidelines, as discussed later in this chapter).

The statute permits the Petroleum Storage Tank Committee to reduce the amount an owner/operator receives in State Fund assistance on the basis of whether the owner/operator complied with specific tank regulations. The statute (Section 8-20.5-104(4)(d)(I), C.R.S.,) states "the committee shall use the following guidelines when imposing a reduction for noncompliance:"

- Up to a 10 percent reduction for failure to register a tank;
- Up to a 25 percent reduction for improper release detection;
- Up to a 10 percent reduction for improper release reporting;
- Up to a 20 percent reduction for improper out-of-service and closure.

The Division conducts the initial review of all applications for State Fund eligibility in accordance with criteria established by the Committee. These criteria set maximum percent reductions based on the degree of noncompliance for each of the four areas specified in statute. When there are multiple issues of noncompliance in the categories listed above, an owner/operator's reimbursement may either be reduced up to a cumulative total of 65 percent or denied in full. In accordance with the statute (Section 8-20.5-104(4)(d)(II), C.R.S.), the Committee has established criteria for when it may deny an application for reimbursement when there are multiple issues of noncompliance. After reviewing the applications, Division staff identify and communicate any statutorily authorized reduction amounts to the Committee. The Committee holds a hearing on the applications during which the owner/operator or an authorized representative of the owner/operator may address the Committee. The hearing is recorded and tapes are maintained as part of the administrative record. During the applicant's hearing, the Committee and the owner/operator or an authorized representative of the owner/operator engage in a

discussion regarding the facts of the site. According to the Committee, this discussion enables it to gain site-specific facts that are essential in determining what reductions, if any, to apply to the application. In receipt of the site-specific facts presented both by the Division and the owner/operator or an authorized representative of the owner/operator, the Committee then exercises its discretion in deciding whether to impose any of the statutorily authorized reductions identified by Division staff and determining the extent to which those reductions will be imposed.

We found that although the Committee has established criteria for determining reduction amounts, there is no written documentation indicating that the Committee has applied these criteria consistently across remediation projects. More specifically, we found that for similar issues of noncompliance, the Committee imposed different reductions. For example, our review of the written documentation in the files for 76 of the 129 eligibility decisions made between July 2004 and February 2006 found:

- Eighteen applicants had multiple compliance issues and thus, could have been denied any State Fund assistance. However, none of the applicants were denied 100 percent of their reimbursement. Instead, the Committee imposed varying reductions ranging from 1 to 31 percent for similar issues of noncompliance.
- Two applicants had missing inventory control records (a system of release detection) for 6 months and thus, could have had their State Fund reimbursement reduced by up to 25 percent. One applicant received a 15 percent reduction while the other received only a 3 percent reduction.

We interviewed all seven Committee members to determine what criteria they use when deciding the percent reductions to impose. According to the members, they first consider any noncompliance issues and then review each case, taking into consideration, among other things, the owner/operator's due diligence in preventing and identifying the release, knowledge of the petroleum storage tank regulations, any extenuating circumstances, and prior Committee decisions for similar cases.

Although the Committee members explained the criteria they use to impose percent reductions, we did not find written documentation in the files that the Committee applied these criteria consistently and could not determine how extenuating circumstances may have impacted its decisions. According to the Committee, the hearing tapes record the rationale the Committee used to determine the percent reductions that were imposed. However, since the basis for the percent reductions is not summarized or documented in writing anywhere, the Committee cannot readily review the consistency of its decision making practices, or determine whether inconsistencies exist and need to be addressed.

To ensure reduction decisions are consistent and equitable, the Committee should maintain written documentation of its rationale for the percent reductions imposed, including how extenuating circumstances affect its decisions. The Committee should use this information to periodically evaluate its practices for determining the amount of reductions to impose for noncompliance issues and revise its policies as necessary.

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### **Recommendation No. 7:**

The Petroleum Storage Tank Committee should evaluate a system for maintaining written documentation of its rationale for final reduction decisions, including how extenuating circumstances impact the Committee's decision. The Committee should review this information to periodically evaluate its practices for determining the amount of reductions to impose for noncompliance issues and revise its policies as necessary.

### **Petroleum Storage Tank Committee Response:**

Agree. Implementation Date: March 2008. The Petroleum Storage Tank Committee will initiate implementation of the recommendation by the end of the first quarter of 2007 and complete implementation of the recommendation by the end of the first quarter of 2008. The Petroleum Storage Tank Committee agrees with the audit recommendation and intends to implement an evaluation to identify various approaches to maintain written documentation of its rationale for final reduction decisions. The potential approaches the Petroleum Storage Tank Committee will evaluate for maintaining written documentation of its rationale for final reduction decisions include, but are not limited to, the following: (1) consideration of other board/committee/commission methodologies for maintaining written documentation of its decision rationale; (2) consideration of existing Division mechanisms for incorporation of further written documentation to provide decision rationale; (3) consideration of new Division mechanism implementation to incorporate further written documentation to provide decision rationale; and (4) consideration of meeting agenda expansion to incorporate regularly scheduled policy reviews.

The Petroleum Storage Tank Committee would like to note that even though the Petroleum Storage Tank Committee agrees with the audit recommendation, it is the opinion of the Petroleum Storage Tank Committee that a factual basis for final reduction decisions is documented on the hearing tapes maintained at the Division.

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## Cost Recovery

Leaking Underground Storage Tank (LUST) Trust Funds are federal grants used to cover remediation costs at sites where the owner/operator responsible for the contamination (1) cannot be identified or located (i.e., they are unknown), (2) is unwilling to clean up the contamination, or (3) is financially unable to cover the costs of remediation. When sites meet one of the above three conditions, the Division is able to use LUST Trust funds to hire its own contractor to remediate the site. By making LUST Trust Fund grants available to the states, the federal government intends to recognize the public interest in ensuring that contaminated sites are remediated.

Although LUST Trust funds are used to remediate sites that qualify for funding, the owner/operator responsible for the contamination remains financially responsible for the cleanup costs. The Environmental Protection Agency (EPA) requires the Division to make reasonable efforts, such as sending demand letters and issuing administrative orders, to contact all “unwilling-” and “unable-” to-pay owner/operators to notify them of the amount of LUST Trust Funds spent on remediating their site and demand payment. Additionally, the EPA requires the Division to pursue cost recovery through enforcement measures, such as pursuing litigation, unless the owner/operator demonstrates that it lacks the financial resources to pay, or the Division determines that it is inefficient to pursue further cost recovery efforts. In these cases, the EPA requires the Division to maintain documentation of the Division’s decision to discontinue cost recovery efforts. Finally, the EPA directives require the Division to maintain accounting and record-keeping systems that document all LUST Trust Fund expenditures and support all cost recoveries.

In addition to recovering LUST Trust Fund expenditures from the responsible owner/operator, costs can be recovered by the Division from the State Fund if the owner/operator is eligible for State Fund assistance. The same State Fund eligibility requirements apply to these owner/operators as apply to all other owner/operators. This includes the requirement that owner/operators pay the first \$10,000 in remediation costs. Additionally, percent reductions are applied for issues of noncompliance (e.g., failure to register, not reporting suspected releases within 24 hours), as discussed earlier in this chapter. Since the Division, and not the owner/operator, is paying the remediation expenses in the LUST Trust Fund cases, the Division, on behalf of the owner/operator, periodically seeks reimbursement of LUST Trust Funds directly from the State Fund. The Division is required to attempt to recover from the owner/operator any amounts that cannot be recovered from the State Fund, which generally includes the first \$10,000 in remediation costs and any reductions for noncompliance.

According to the Division, of the approximately \$5.5 million of LUST Trust Funds spent on remediation during Fiscal Years 2003 through 2006, nearly \$5 million has been recovered from the State Fund and about \$3,200 has been recovered from owner/operators. This means that about \$500,000 has not been recovered, or about 9 percent of all LUST Trust Funds spent between Fiscal Year 2003 and 2006. Amounts recovered from the State Fund or owner/operators are not refunded to the federal government. Instead, the amounts recovered are retained by the State and used to replenish the LUST Trust Fund for other remediation projects.

Currently, the Division's policy is to pursue cost recovery during each phase of remediation and while the project is still active. We reviewed the Division's LUST Trust Fund cost recovery efforts and found that the Division could improve its efforts to recover remediation costs from owner/operators in accordance with EPA program directives. We reviewed the Division's cost recovery efforts for 17 of the 68 projects that were remediated with LUST Trust Funds between Fiscal Year 2003 and 2006. The owner/operator for each of these projects was responsible, and thus financially liable, for the contamination. We found the following:

**Requesting payment.** We found the Division does not regularly request payment from the responsible owner/operators for project expenditures that are not reimbursed by the State Fund, as required by the EPA. Between July 1998 and October 2005, the Division spent nearly \$3.2 million in LUST Trust Funds on the 17 projects sampled. Of this amount, nearly \$2.7 million was recoverable from the State Fund because the responsible owner/operators had established eligibility for State Fund assistance. The remaining \$500,000 was not recoverable from the State Fund and, therefore, should have been requested from the responsible owner/operators. There were 12 projects in our sample that were responsible for the \$500,000. At the time of our audit, the Division has not made any payment requests for these 12 projects or taken enforcement actions against these owner/operators.

**Ability to pay.** As mentioned previously, according to EPA directives, the Division does not have to pursue cost recovery efforts if an owner/operator demonstrates that he or she lacks the financial resources to pay or the Division determines that it is inefficient to pursue further cost recovery efforts due to the lack of financial resources. In these cases, the EPA requires the Division to document its decision to discontinue cost recovery efforts. Of our sample of 17 owner/operators, we found no evidence that the Division has attempted to evaluate whether the 12 owner/operators with outstanding balances have the ability to pay for at least a portion of the \$500,000 in remediation costs unrecoverable from the State Fund. A 2004 EPA audit of the Division's LUST Trust Fund files included a similar finding and recommended the Division standardize its methods for evaluating owner/operators' ability to pay and use this information to target its cost recovery

efforts toward owner/operators who could pay. The EPA suggested that the Division use the EPA's free software, available online, to evaluate owner/operators' ability to pay.

**Recovery amounts.** We also found that when the Division recovers LUST Trust Fund expenditures from the State Fund, the Division is not always recovering correct amounts. We reviewed the Division's cost recoveries from the State Fund for the 17 LUST Trust Fund projects in our sample and found the Division recovered more than it should have for some projects and not enough for others. Errors in State Fund cost recoveries are due to the Division's lack of reconciliation procedures for information in the Division's Colorado Storage Tank Information System (COSTIS), the Division's system for tracking LUST Trust Fund project expenditures, with information in COFRS, the State's official accounting system. Additionally, we found the Division does not consistently maintain sufficient documentation to support LUST Trust Fund cost recoveries from the State Fund, which means payment amounts cannot be reconciled to actual expenditure data.

The Division has been effective at recovering LUST Trust Fund expenditures from the State Fund. The Division also needs to improve efforts to recover LUST Trust Fund expenditures from owner/operators in compliance with EPA requirements. The State benefits when the LUST Trust Fund is reimbursed since the Division is allowed to retain all recovered LUST Trust Fund dollars and use these funds to remediate other sites. As of May 2006, there were 87 remediation projects in the State eligible for and waiting to receive LUST Trust Fund assistance. Some of these projects had been on the waitlist for about six years. Further, when the Division does not recover costs from owner/operators who are able to pay at least a portion of their remediation costs, these owner/operators receive an unfair advantage over other owner/operators who use their funds to pay costs that are not reimbursable by the State Fund. Additionally, the Division should ensure that State Fund cost recoveries are accurate and maintain supporting documentation for recovered amounts.

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## **Recommendation No. 8:**

The Division of Oil and Public Safety should comply with Environmental Protection Agency cost recovery requirements and ensure all cost recoveries are based on accurate expenditure data. The Division should:

- a. Request reimbursement for project expenditures when the responsible owner/operator has been identified and take enforcement actions as necessary.

- b. Establish criteria or use the EPA's software to evaluate owner/operators' ability to repay LUST Trust Fund expenditures for remediating their sites, pursuing cost recovery when cost-effective.
- c. Perform periodic reconciliations between expenditure information in COSTIS and COFRS and resolving discrepancies or alternatively, relying on expenditures recorded in COFRS. Cost recovery amounts should be based on reconciled project expenditure data or data contained in COFRS.
- d. Maintain supporting documentation, such as invoices, for expenditures recovered from the State Fund.

### **Division of Oil and Public Safety Response:**

Agree. Implementation Date: November 2007.

- a. Agree. The Division has cost recovered about \$5 million from the Petroleum Storage Tank Fund for sites that are eligible and considers it a success story. These funds have been used at high priority sites where owners/operators are unknown, unwilling, or unable to perform their own site assessment and cleanup activities and represent the majority of the funds used at 62 LUST Trust sites. The Division believes it has cost recovered more funds than any other state. The Division will continue to request reimbursement for project expenditures when the owner/operator has been identified. The Division will forward to State Collections those cases where the owner/operator is found to be required to pay as identified in b. below.
- b. Agree. The Division will follow EPA directives for cost recovery of LUST Trust expenditures by seeking reimbursement from the responsible party at the time of site closure. The Division agrees to evaluate an responsible party's ability to pay and will establish criteria or utilize the EPA's software, Indipay.
- c & d. Agree. The Division agrees and has implemented the following: Cost recovery dollar amounts will be based on financial data tracked in COFRS. COSTIS will no longer be used to track LUST Trust expenditures; therefore no reconciliation will be performed. To ensure that the accurate dollar amount is recovered for all future cost recovery efforts the Division will use COFRS to track LUST Trust expenditures. Supporting documentation, such as invoices, for expenditures recovered

will continue to be maintained in the Finance office. The Division will no longer maintain copies of invoices in the Division's record center.

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## Expenditure Controls

Expenditure controls are important for ensuring that reimbursements paid from the State Fund are reasonable and used for appropriate purposes. The Division controls remediation expenditures on the front end when the Division reviews and approves the remediation budget, and on the back end when the Division reviews submitted reimbursement requests and supporting documentation from owner/operators.

The statute and policies promulgated by the Petroleum Storage Tank Committee set forth the Division's responsibilities related to reviewing budgets and paying reimbursement requests. The statutes (Section 8-20.5-209(2) and Section 8-20.5-304(2), C.R.S.) state:

. . . the owner or the operator shall provide the Director of the Division of Oil and Public Safety with a corrective action plan to clean up subsurface soil, groundwater, and surface water as a result of the release. In addition to the corrective action plan, the owner or operator shall prepare a summary of the costs associated with the preferred corrective action, taking into account economic and technological feasibility, in accordance with the rules promulgated pursuant to Section 8-20.5-104(4)(d) and shall submit the summary to the committee created in said Section. The Director of the Division of Oil and Public Safety shall review and approve or disapprove the plan . . . .

Owner/operators document the costs associated with the preferred corrective action in a remediation budget. Costs exceeding the budget are generally not reimbursable. To develop the budget, the Committee has established cost guidelines for some goods and services commonly purchased when remediating petroleum contamination to help ensure state funds are used in the most cost-effective manner. The guidelines allow for costs up to a maximum dollar amount for tasks, such as installing temporary or permanent monitoring wells, taking groundwater samples, and performing laboratory tests for measuring contamination levels. The guidelines also define reasonable labor rates for compensating remediation specialists.

Owner/operators are to use the cost guidelines to develop the proposed budgets for the various task and labor items. As remediation costs are incurred, owner/operators can request reimbursement from the State Fund. Committee policies require

Division staff to review each invoice to determine whether the costs submitted for reimbursement are consistent with the cost guidelines. The Division has five FTE that review every invoice manually, comparing the expenses with the remediation budget and cost guidelines before reimbursing the expenditure.

We reviewed the Division's practices for controlling expenditures and identified opportunities for improving the efficiency of both the budget and reimbursement processes. First, the Division should streamline the expenditure review process. We found that the Division's manual comparison of every invoice with the cost guidelines is duplicative and time-consuming. Since the Division has already compared the cost of the item with the cost guidelines when it approved the remediation budget, it is sufficient for the Division to monitor the reimbursement request and resulting expenditure against the budget. As long as expenditures are included in the budget and supported by invoices, a comparison of each item in the reimbursement request against the cost guidelines is not necessary. This procedural change would require a revision of Committee policies.

Second, the Division should evaluate options for ensuring costs incurred for remediation projects are reasonable. This could include developing additional cost guidelines to be incorporated in the budget development and review process or establishing reasonable costs by the type of remediation activity (e.g., pilot testing a remediation system). We found the Division has established cost guidelines for only 63 of the 170 (37 percent) task and labor codes it uses for categorizing expenditures for remediation projects. If the Division continues to use cost guidelines in the budget development process, the Division should evaluate whether there are other codes for which cost guidelines could be established. Additionally, the Division reports that it is in the process of developing an activity-based approach to reviewing remediation costs rather than using cost guidelines for the individual tasks. Pursuing this approach may help improve the efficiency of the budget development and review process, yet still ensure costs are reasonable. Overall, more comprehensive cost standards, either by task and labor or activity level, would help ensure that owner/operators, and thus, the State Fund, pay consistent, reasonable prices for the same items.

The Division should work with the Petroleum Storage Tank Committee to establish more comprehensive cost standards, whether at the unit or activity level, and ensure owner/operators apply these standards when developing their remediation budgets. Additionally, the Division should use the cost standards and its budget approval process as the primary control for monitoring and approving expenditures, as described above.

## **Recommendation No. 9:**

The Division of Oil and Public Safety should work with the Petroleum Storage Tank Committee to streamline and improve the efficiency of the budget approval and reimbursement review processes by:

- a. Revising Committee policies to allow Division staff to review expenditures only to ensure they are included in the budget and supported by invoices.
- b. Establishing more comprehensive cost standards to be used in the budget development process. Options could include establishing cost guidelines for additional task and labor codes or establishing guidelines by remediation activity.

## **Division of Oil and Public Safety Response:**

Agree. Implementation Date: July 2008. The Division agrees to work with the Petroleum Storage Tank Committee, as necessary, to revise and streamline the budget development and reimbursement review processes. The Division has evaluated the task and labor codes and has identified 15 additional task codes associated with emergency response and assessment that may be useful. In addition, the Division has developed the Economic Feasibility Summary (EFS) process which establishes pre-approved costs for reimbursement. The Division plans to have staff identify costs in excess of each approved EFS activity rather than evaluating single line item charges to streamline the reimbursement review process. The Division has also developed the “EFS Review Tool” which provides internal guidance for technical reviewers when approving EFSs. The EFS Review Tool is a work in progress and is continuously updated as more information is collected. The Division will evaluate whether there are specific EFS activities for which it is possible to develop additional reasonable cost guidelines.

## **Petroleum Storage Tank Committee Response:**

Agree. Implementation Date: January 2007. The Petroleum Storage Tank Committee will initiate implementation of the recommendation by January 2007. The Petroleum Storage Tank Committee agrees with the audit recommendation and intends to work with the Division to streamline and improve the efficiency of the budget approval and reimbursement review processes by revising Committee policies to allow Division staff to review expenditures only to ensure they are included in the budget and supported by invoices.

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