ANNUAL UPDATE FOR FISCAL YEAR 2007/2008

COLORADO DEPARTMENT OF LABOR AND EMPLOYMENT
DIVISION OF OIL AND PUBLIC SAFETY

SB 181
COMPLIANCE WITH WATER QUALITY STANDARDS AND CLASSIFICATION

SEPTEMBER 2008

This update is offered to the Water Quality Control Commission concerning the activities of the Division of Oil and Public Safety Storage Tank Program for the period ending June 30, 2008.

Technical Activities

Number of releases active during Fiscal Year 2008	1493
Number of confirmed releases	199
Number of sites issued No Further Action required letters	259
Number of Site Characterization Reports reviewed	200
Number of Corrective Action Plans reviewed and approved	353
Number of Monitoring Reports reviewed	2237
Number of Final Enforcement Letters sent	12
Number of Enforcement Settlement Agreements sent	4

State Fund Information for Fiscal Year 2008

Number of reimbursement applications heard by the PST Committee	63
Number of supplemental reimbursement applications approved by Staff	2052
Dollars reimbursed by the PST Committee (including State Lead and LUST Trust)	$34,691,461
Total dollars reimbursed since inception of the Fund (1991)	$326,989,060

Program Improvements

Listed below are improvements made by the Division to the program in order to more effectively investigate and remediate the contamination associated with petroleum storage tank system failures and protect the solvency of the Petroleum Storage Tank Fund.

Economic Feasibility Summary/Electronic Reimbursement Application (EFS/ERAP)

The EFS form now includes start and end dates for the scope of work associated with the proposed/approved costs. This aids in reviewing proposed costs, and tracking reimbursement. A place to input the projected closure date has been added to the EFS to clearly state when the remediation goals are anticipated to be met.

Methyl-Tert Butyl Ether (MTBE)

MTBE was adopted as a chemical of concern (COC) for the groundwater ingestion pathway through regulation in 2005. Additionally, an MTBE Guidance Document was developed and published to assist tank owners and operators and their consultants with completing MTBE assessments and cleanups. MTBE differs from other COCs in that the property boundary is not considered a POE, but rather water supplies used for human consumption within 2,500 feet of the source. From May 30, 2005 forward, responsible parties are required to analyze MTBE from groundwater samples collected at all site monitoring wells. During FY 2008, 111 MTBE Assessment Reports (MARS) were received and an additional 35 groundwater fate and transport models were included in other types of reports for eliminating the MTBE groundwater elimination pathway. Pathway elimination was granted for 72 sites using successful fate and transport models. A total of 94 MTBE pathway elimination letters were sent for sites that met the criteria for MTBE groundwater ingestion pathway elimination.

Remedial System Inspection Program (RSIP)

During FY 2008, OPS completed the sixth year of the Remedial System Inspection Program (RSIP). The purpose of RSIP is to conduct site inspections of facilities located throughout the state. The criterion for selecting sites to conduct an inspection was expanded from sites that were reimbursed $100,000 from the Petroleum Storage Tank Fund to include any active assessment or remedial action site. OPS continued to provide field support to the regulated community. During the RSIP site visits, OPS staff verified the installation of remediation systems, discussed remedial system operational problems and system efficiency. An addition to this year's program was the Remediation Section's focus on the technical aspects of evaluating the soil vapor to indoor air exposure pathway. Soil vapor implant installation and soil vapor sampling were among the field techniques that were observed and modifications recommended pursuant to the Petroleum Hydrocarbon Vapor Intrusion Guidance Document published in December 2007.

OPS Remediation Section provided regulatory oversight during the permanent closure of 326 petroleum storage tanks at 142 locations during FY 2008 and will continue this role in FY 2009. During these closure inspections, OPS staff

ensures that proper tank closure methods are utilized and closure assessment sampling of soil and groundwater is conducted to measure for the presence of a release. During FY 2008, 72 site closures (50.7%) had confirmed petroleum releases compared to 61.58% from FY 2007.

LUST Trust Fund

In FY 2008, the OPS continued to aggressively assess and remediate sites where tank owners were unknown, unwilling or unable to perform the work or in emergency situations. During FY 2008, the OPS expended $1,722,817.00 at the 44 sites in the LUST Trust program. Work performed at these sites was funded through the USEPA Leaking Underground Storage Tank (LUST) Trust Grant and through costs recovered from the Petroleum Storage Tank Fund (PSTF) for eligible sites. Forty sites are being addressed because the owner is either financially unable or unwilling to perform the work. Of these 40 sites, 23 have active remediation systems operating, nine are conducting monitored natural attenuation, two are conducting post remedial monitoring, and six are in the assessment phase. Four subsurface investigations were performed to identify the responsible party.

LUST Trust Fund Cost Recovery

In FY 2008, the OPS continued to implement a program to recover funds expended from the LUST Trust Grant. Costs were recovered at 37 sites where the RP was eligible for reimbursement from the Colorado Petroleum Storage Tank Fund (PSTF). The eligible funds were transferred from the PSTF to the LUST Trust Grant. In FY 2008 the OPS recovered $945,519.00 from the PSTF. The recovered money will enable the Section to continue to perform assessments and remediation activities at high priority sites. Total costs recovered to date are $8,306,889.00.

Petroleum Storage Tank Fund - State Lead Cleanups

In FY 2008, the OPS continued to aggressively assess and remediate 61 active State Lead sites. Of these 61 sites, 27 have active remediation systems operating, 14 are conducting monitored natural attenuation, six are conducting post remedial monitoring, four have submitted corrective action plans (CAP), eight are in the assessment phase, and two sites received no further action status. Money from the PSTF was used to perform activities at sites where persons who bear no responsibility for the releases received eligibility. In FY 2008 the OPS expended $3,150,435.00 at State Lead sites.

In FY 2008 the OPS initiated a new State Lead program for responsible parties (RP). To qualify for the State Lead as a RP Program the following criteria must be met:

1. The RP must establish eligibility to the PSTF with 0% reductions imposed by the Petroleum Storage Tank Committee for non-compliance. RPs with minimal percent reductions may be considered if they agree to pay the costs of the reductions;
2. The RP must meet the $10,000 deductible ($25,000 deductible in the case where there is a third party claim).
3. The RP can not own more than two petroleum facilities.

During FY 2008 fourteen RPs applied for and where accepted into the State Lead for RP program. OPS is actively working on all fourteen sites. Money from the PSTF will be used to address these sites.

Brownfields Grant

The OPS received an EPA National Brownfields Assessment Grant in October, 2005. A Brownfields site is real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. The award of the competitive $200,000 grant provided the OPS with funding to conduct Phase 1 and Phase 2 investigations at six Brownfields sites. The grant expired September 30, 2008 at which time all $200,000 had been encumbered and it is anticipated all encumberances will be invoiced by December 31, 2008.

The OPS continues to partner with the Colorado Department of Public Health and Environment (CDPHE) and the Colorado Brownfields Foundation to implement the Colorado Historic and Scenic Byways Initiative.

Risk Based Decision Making

In FY 2008, regulations that incorporate risk based decision making (RBDM) promulgated in February 1999, continued to be successfully implemented. The RBDM process consists of a tiered approach to site evaluation and cleanup. During the Tier 1 evaluation, the highest concentrations of chemicals of concern are compared to Tier 1 risk-based screening levels RBSLs for each complete exposure pathway. For sites with contamination above the RBSLs, owners/operators are given the option to cleanup to Tier 1 RBSLs or to collect additional site-specific data and proceed to a Tier 1A or Tier 2 evaluation. Five Tier 1A models, nine Tier 2 models, and 206 fate and transport models (146 for MTBE contamination and 60 for contamination of BTEX COCs) were submitted in FY 2008. The model results for BTEX COCs (including Tier 1A and Tier 2 models) were 35 passed, eight failed and 31 found to be invalid.

Monitoring and Remediation Report (MRR)

During FY 2008, OPS implemented a standardized reporting format to be used by consultants that provides OPS complete information necessary to make decisions on the direction of remediation or site closure and expedites the review process. This document, the Monitoring and Remediation Report (MRR), contains the following:

- General site information
- Changes in site status since the previous monitoring event
- Cumulative data throughout the history of site monitoring
- Trends in groundwater contamination in relation to groundwater elevation
- Monitored remediation parameters for the most frequently used remediation technologies
- Calculations for contaminant mass removal
- Separate sheets for the insertion of site figures

The MRR is a Microsoft Excel based document that ensures consistent information and data reporting that will eventually be used to auto-populate OPS' publicly accessible database (COSTIS).

Vapor Intrusion Evaluation

Throughout 2005 and 2006, the OPS had completed an Access database that contains 40,000 vapor data points from 110 contaminated sites. During FY 2007, OPS shared the database with American Petroleum Institute (API) in an effort to evaluate attenuation of soil vapor. Study of this database is continuing and OPS anticipates that results will aide in the evaluation of risk based screening levels (RBSLs) implemented for both the soil vapor and groundwater to indoor air pathways developed in 1999.

During FY 2008, OPS completed and posted the Vapor Intrusion Guidance Document that presents current industry standards in the assessment and mitigation of the petroleum contaminant vapor intrusion pathway into structures.