Petroleum Tank Release Cleanup Fund

BIENNIAL REPORT

July 2006

Short-Term and Long-Term Fund Viability

Petroleum Tank Release Compensation Board

1100 North Last Chance Gulch

P.O. Box 200902

Helena, Montana 59620-0902

June 30, 2006

Richard Opper
Director
Department of Environmental Quality

Scott A. Seacat
Legislative Auditor
Legislative Audit Division

Re: Biennial report on short and long term viability of the Petroleum Fund.

Gentlemen:

On behalf of the Montana Petroleum Tank Release Compensation Board, I am pleased to present this biennial report. This report is intended to provide information associated with an analysis of the short-term and long-term viability of the Fund. Responsibility for the accuracy of the data, and the completeness and fairness of the report rests with the Board staff. The Board has modified the draft. Comments from the Department of Environmental Quality and the Legislative Audit Division have been incorporated along with an Executive Summary.

As required by Statute, the focus of this report is on six areas related to the viability of the Petroleum Tank Release Clean-up Fund:

- Trends in Fund Revenue
- Trends in Expenditures
- Exposure to Long Term Liabilities
- Impacts of Changes In State & Federal Regulations Relating To USTs And ASTs
- Petroleum Storage Tank Liability Insurance
- Petroleum Tank Release Cleanup Fee

On behalf of the Board, I would like to thank the staff, the Board's advisors, and the many people whose commitment, dedication, and proficiency have directly contributed to the successful operation of the Petroleum Tank Release Cleanup Fund. The Board and staff look forward to continuing to serve the citizens of Montana.

Sincerely,

Terry Wadsworth
Executive Director

June 30, 2006

Richard Opper
Director
Department of Environmental Quality

Scott A. Seacat
Legislative Auditor
Legislative Audit Division

Re: Biennial Report.

Gentlemen:

The Petroleum Tank Release Compensation Board members are pleased to provide the 2007 Biennial Report. I was privileged to be a small part of the process that resulted in the birth of our Petroleum Tank Release Cleanup Fund (Fund) and the Petroleum Tank Release Compensation Board that administers the Fund, in 1989. The process was a very rewarding learning experience, and the results satisfying. When called to serve on the Board, I viewed the opportunity as a means to serve the petroleum industry and the people of Montana who worked so hard to implement the tank release clean-up program.

To date, the Petroleum Tank Release Cleanup Fund has accomplished the following goals:

1. The Fund allows us to comply with federal EPA mandates and the State commitments to preserve our environmental heritage.
2. The Fund insures that the fiscal responsibilities and good faith efforts expected of fuel distributors and consumers are met in a reasonable fashion.
3. Environmental financial responsibilities can be met, regardless of business size and location. Our smaller fuel dealers located in rural communities have the same financial resources as larger enterprises located in our cities. These small businesses would not be economically viable if the threat of environmental liability was placed solely upon their shoulders.

Although funding remains tight and cleanup responsibilities challenging, our Department of Environmental Quality partners and the Board staff are committed to the continued success of this valuable resource. Cleanup processes engineered for new and historic release sites are continually reviewed and analyzed for effectiveness and reasonability. Where possible, work plans are modified to reflect new technology and the most effective cleanup methods relative to the available funding. This review process requires the time and dedication of all involved:

property owners, DEQ and PTRCB staff, board members, consultants, and contractors. The system is working.

Your PTRCB members willingly serve at the pleasure of Governor Schweitzer. We are committed to the task at hand, and will continue to be an effective advocate for the people we serve and the resources we safeguard.

Sincerely

Greg Cross
Presiding Officer
Petroleum Tank Release Compensation Board

Petroleum Tank Release Compensation Board

The Petroleum Tank Release Compensation Board, established under §2-15-2108, Montana Code Annotated (MCA), consists of seven members appointed by the governor. The members presiding in the positions established by law and their positions at the time of the writing of this report are:

Position Held	Member Name	Term Ends
Representative of the financial or banking industry	Frank Boucher	June 30, 2008
Representative of petroleum services industry or a representative of the petroleum release remediation consultant industry	Roger A. Noble	June 30, 2007
Representative of independent petroleum marketers and chain retailers	Greg Cross Presiding Officer	June 30, 2007
Representative of the general public	Thomas Bateridge	June 30, 2006
Representative of the service station dealers	Frank Schumacher Vice Presiding Officier	June 30, 2006
Representative of the insurance industry	Shaun Peterson	June 30, 2008
Person with a background in environmental regulation	Theresa Blazicevich	June 30, 2007

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Revenue was shown to have an increasing trend primarily attributable to diesel use. Excluding early years for which revenue did not represent a complete year, the revenues collected exhibited an increase of approximately $70,000 per year. Of the three categories of fuel (gasoline, diesel, & aviation) diesel exhibits the largest annual fee increase. Since the fee is levied on a gallon of fuel the increase in revenue is directly attributable to fuel use in the state. By extrapolating the trend in fuel use, it can be seen that diesel fuel will ultimately replace gasoline as the product contributing the most revenue to the Fund.

Comparing the annual revenue with the annual consumer price index indicates that the Fund does not have the buying power today it did in the early years of the program. The consumer price index indicates that the costs of goods and services are rising faster than Fund revenue is increasing. The administrative expenses of the program are rising at a rate consistent with the consumer price index. The combination of these results in the Fund not being able to support the level of corrective action it supported earlier in the program.

The best estimate of long term expenditures appears to be the average annual expenditure. Average annual expenditures on claims for corrective action activity for the next five years are projected to be $5 million per year. No linear trend was discernable in the annual claim expenditures from FY 1995 through FY 2005.

Growth of long term liabilities may be reaching a peak depending on the outcome of strategic planning related to aboveground storage tanks. The number of newly discovered releases per year is declining and existing releases are reaching cleanup objectives each year, resulting in an apparent reduction in long-term liabilities. Releases from recent spills appear to be more localized resulting in faster and lest costly cleanup. The number of releases discovered on properties contaminated from historical activity is also declining. The decline in the discovery of new releases may

experience a setback depending on the strategic approach taken to help owners and operators of aboveground storage tanks prevent contamination of properties in the coming decades. As compliance requirements for aboveground storage tanks become more stringent releases may be identified, resulting in required corrective action. Stringent requirements will likely mitigate future environmental liabilities; however, in the short term it will likely identify existing environmental concerns that require funding assistance.

The board is following the progress of State and Federal regulations that may impact the Fund. The federal regulations being watched include the Energy Policy Act of 2005 and the requirements for Spill Prevention Control and Countermeasure (SPCC) Plan. Both are aimed at reducing releases to the environment, which should result in a reduction to long-term liabilities. The state regulations of interest include board-promulgated amendments in 2005, the board's strategy to encourage owners and operators of aboveground storage tanks to upgrade to current standards, and state response to federal regulatory changes.

A survey of storage tank pollution insurance brokers indicated that tank system insurance coverage for new leaks is becoming more affordable and there is a larger variety of options. The insurance coverage for preexisting contamination remains difficult and expensive. There has been some insurance coverage associated with a few of the releases discovered in this biennium. The board continues to collect information related to storage tank pollution insurance in an effort to determine the role insurance will play along with Fund reimbursement to meet in the long-term needs.

In general the owners and operators are satisfied with the assistance provided by the Fund. They would like the Fund to meet the needs associated with the cleanup of historical contamination and remain a viable program for the future. Many of the owners are involved in assisting the board with addressing the current and future challenges and see equity in the assessment of a fee on those who consume the product to protect the environment.

INTRODUCTION

The rapid industrial growth and economic market cycles that our nation has experienced during the twentieth century have combined to produce one of the healthiest and most prosperous societies in the world today. However, this growth has left behind a legacy of industrial and commercial properties across the state with a variety of real and perceived petroleum contamination problems.

The Petroleum Tank Release Clean-up Fund (Fund) assists Montana in meeting the clean-up challenges related to years of petroleum use in the State, as well as to current utilization of petroleum products. By working to clean up these contaminated properties we bring together government, business, and community leaders and citizens to assure properties remain a vibrant part of the community, and to maintain the healthy environment we have come to enjoy as Montanans - places where our children can grow, our families can thrive and the economy can prosper.

The Fund was established in 1989 and is financed through a fee levied on distribution of petroleum products within the state. The Fund is a state special revenue fund established in §17-2-102, MCA. It is administered by the board and is statutorily appropriated, as provided in §17-7-502, MCA, for the purposes provided for under subsections (3)(c) and (3)(d) of that section. Administrative costs under subsections (3)(a) and (3)(b) must be paid pursuant to a legislative appropriation.

The challenge put before us demands commitment, cooperation, and a common vision tailored to the needs of Montana. Communities, both urban and rural, need to make advances toward sustainability by continued use of properties affected by past petroleum contamination, and Montana needs to continue to develop processes that help prevent contamination of properties in the coming decades. The purpose of this report is to provide information to assist and guide the Board, the Department of Environmental Quality (DEQ) and the legislative body in establishing those desirable

qualities that must be considered by those who are charged with ensuring funding for environmental corrective action programs and projects to clean up petroleum contamination at properties across the state.

This report presents the findings, research methods and descriptive analyses used to examine the viability of the Fund. This report is intended to provide useful information about factors impacting the program and the Fund.

Trends in Fund Revenue

The main funding source for the Fund is a fee levied on distribution of petroleum products within the state. The Fund was established by the Montana legislature in 1989 to pay for allowable costs associated with cleanup of releases from petroleum storage tanks (§75-11-313, MCA). The Fund receives proceeds from fees levied on gasoline, diesel, and aviation fuels. The diesel classification includes distributed fuels sold as heating oil. Additional revenue sources include the board's subrogation activity and earned interest. Due to their complexity, these additional revenue sources have not been included in the analysis of Fund revenues.

Table 1. Revenue by year.

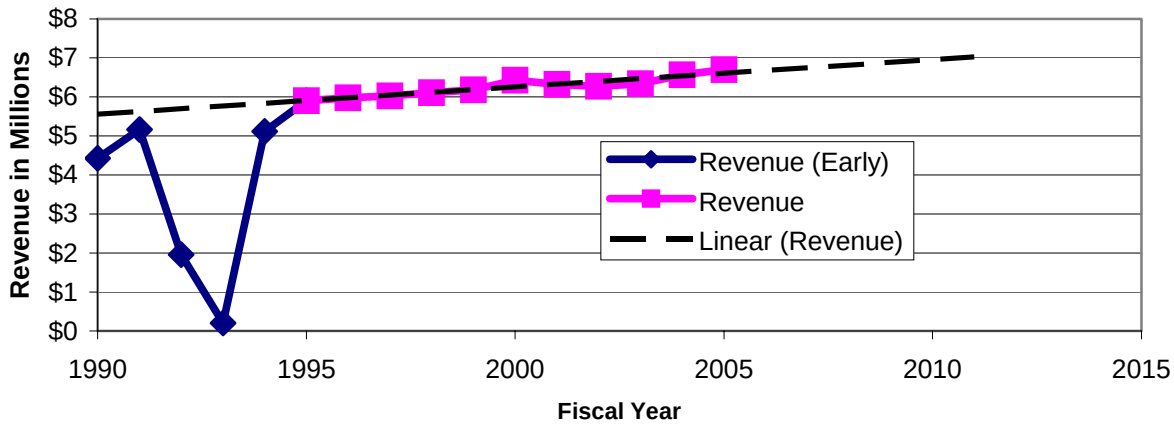
Fiscal Year	Revenue
1990	$4,424,870.32
1991	$5,167,398.46
1992	$1,962,804.40
1993	$208,585.18
1994	$5,112,778.38
1995	$5,901,317.96
1996	$5,976,382.36
1997	$6,027,122.56
1998	$6,107,358.58
1999	$6,183,625.77
2000	$6,428,345.38
2001	$6,319,922.17
2002	$6,268,611.50
2003	$6,333,823.91
2004	$6,566,672.04
2005	$6,696,950.09
2006	$6,545,519.89

Historical

Total revenues of over $92 million have been collected since the inception of the Fund. Table 1 shows revenue data for fiscal year (FY) 1990 through FY 2006. This covers a consecutive period of seventeen years, with an average collection of $5.4 million per year. This average, however, includes years when tax

revenues were not always collected. It is not certain that the first fiscal year revenue reflects collection for a complete year. In addition, collection of the fee is statutorily dependent on the Fund balance. If the un-obligated balance of the Fund exceeds $8 million the fee is suspended, and is only reinstated if the balance falls below $4 million. The suspension of fee collection occurred in FY 1992 and 1993. It is also possible that fee suspension had an effect on FY 1994 revenue totals. At the writing of this report, FY 2006 was not complete, thus the 2006 revenues reflect only fees collected from July 2005 through May 2006.

Figure 1. Revenue Projection.

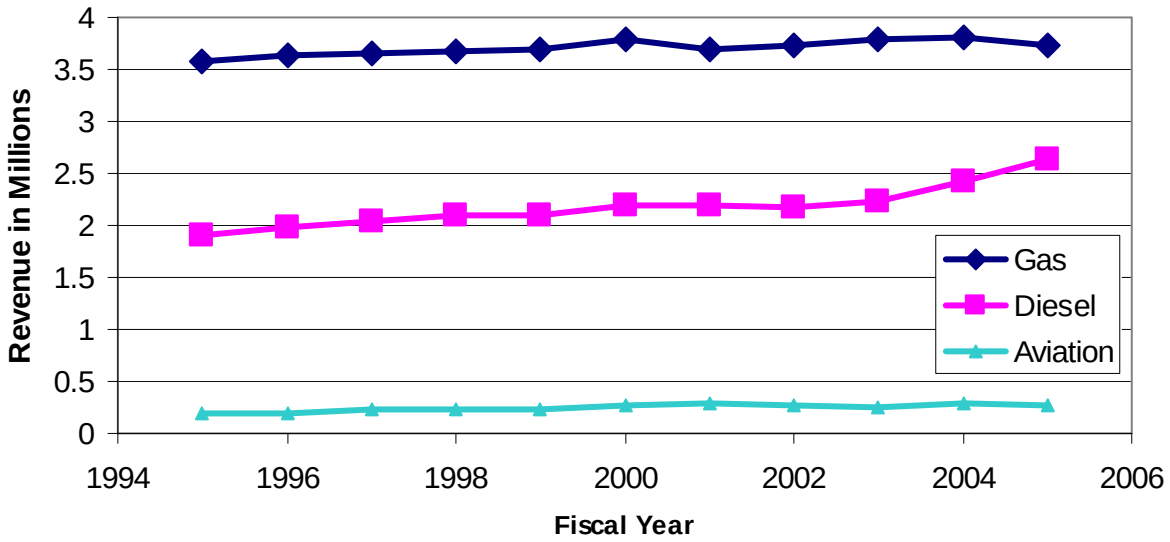


Annual revenues for FY 1990 through FY 2005 have been plotted against fiscal years in Figure 1. The suspension of fees is clearly evident in revenue received in both FY 1992 and FY 1993 and possibly in FY 1994. Given the non-comprehensive revenue collection known or presumed for fiscal years 1990, 1992, 1993 and 1994, revenues have been partitioned into two parts, early revenue (FY 1990 – FY 1994) and subsequent revenue (FY 1995 – FY 2005). Revenue for FY 2006 ($6,545,519.89) has been excluded from the graph since an annual fee total was not obtainable at the writing of this report.

When attention is focused on the eleven years for which a complete revenue history is available (FY 1995 – FY 2005) the data exhibit a fairly linear trend (see Figure 1).

Revenue produced from the three categories of petroleum product on which the fee is levied has been plotted over time in Figure 2. The curves indicate that diesel fuel revenue, which includes heating oil, appears to have the steepest incline. This incline is evident in the least squares analysis (see definitions) used to calculate a straight line

Figure 2. Revenues from Three Petroleum Products.



that best fits the revenue data for the eleven year period for each of the fuel categories. The slopes of the lines predicted from a linear regression are 0.0182, 0.0573 and 0.0089 for gasoline, diesel, and aviation fuels respectively. These regressions indicate that the Fund can expect total revenues to increase by approximately $70,000 each year. Diesel contributes $47,000.00 to this annual revenue increase, while gasoline accounts for $15,000.00 and aviation fuel accounts for only $7,000.00. Diesel contributed approximately 34% of the total fuel revenues in FY 1995, and by FY 2005 diesel contributed nearly 40% of the total fee revenue. In comparison, the percent contribution from gasoline has declined from 63% in FY1995 to 56% in FY 2005, while revenue from aviation fuels has remained nearly constant.

Evaluating the petroleum revenues for the FY 1995 - 2003 and FY 2003 - 2005, indicates that some issue impacted diesel use in 2003. Estimating linear trends for the two separate time periods yields a more significant correlation between the data and a

linear approximation, indicating a possible transition in diesel utilization. The separate analyses of the two periods of diesel data indicate that the annual increase in diesel revenue from FY 1995 to FY 2003 was approximately $37,500.00 while the annual increase from FY 2003 to FY 2005 was roughly $206,200.00. The change in diesel usage is thought to be associated with transportation of goods during a period of economic increase. However, there is no indication that the economy will continue to grow at the current rate and therefore a long-term trend in diesel use can not be established.

An analysis of the changes in revenue values from FY 2004 and FY 2005 indicates that diesel was responsible for the combined increase in total revenue. Diesel revenue increased by more than $213,000.00 from FY 2004 to FY 2005 while both gasoline and aviation revenues decreased by a combined amount of nearly $80,000.00. Diesel revenues experienced the largest revenue increase between FY 1995 and FY 2005, having increased by more than $732,000.00, while gasoline and aviation fuel revenues increased by about $160,000.00 and $85,000, respectively, over this same time period.

Revenue and Inflation

It is important to recognize that since the Fund's revenue is generated from a flat fee levied on each gallon of fuel distributed in the state, the increases in the program's operating and cleanup costs over time can only be offset by increased fuel use. To obtain a better understanding of the status of the Fund one needs to consider how the ever-increasing costs of goods and services compares to the revenue generated by the distribution of fuel.

The Consumer Price Index (CPI) is used to measure inflation. The CPI, also called the cost-of-living index, is a measure of the price of a set group of goods and services. The amount of inflation is measured by the change in the cost of that group of goods and services over time. The CPI can be scaled to a base year to provide a clearer picture of what is happening to the cost of goods and its effects on purchasing power of

revenue or income. For example, a scaling of the CPI could indicate what the cost for a group of goods and services would be in FY 2005 if those same goods and services

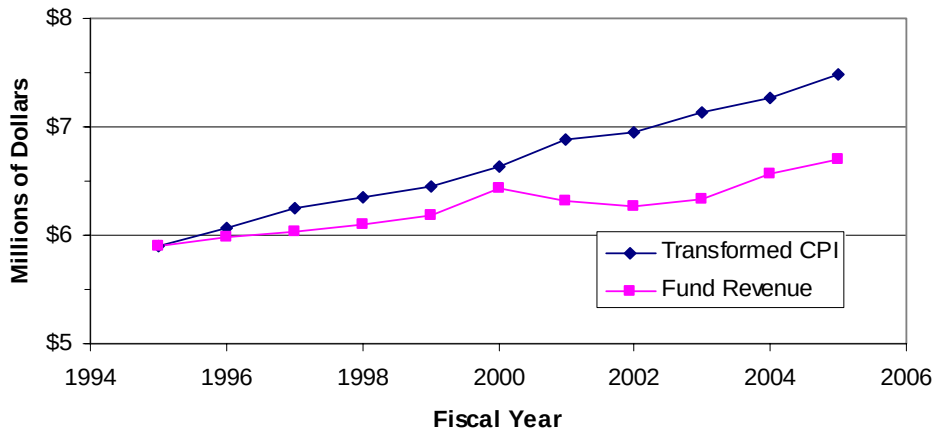
Table 2. Fund revenue and transformed consumer price index.

Year	Consumer Price Index	CPI Reindexed to 1995	Decimal Form	Transformed CPI	Fund Revenue	Difference
1995	150.3	100.000	1.00	$5.901318	$5.901318	$0.00
1996	154.4	102.728	1.03	$6.062299	$5.976382	-$85,916.33
1997	159.1	105.855	1.06	$6.246838	$6.027123	-$219,715.01
1998	161.6	107.518	1.08	$6.344997	$6.107359	-$237,637.98
1999	164.3	109.315	1.09	$6.451008	$6.183626	-$267,382.49
2000	168.8	112.309	1.12	$6.627694	$6.428345	-$199,349.04
2001	175.1	116.500	1.17	$6.875055	$6.319922	-$555,132.89
2002	177.1	117.831	1.18	$6.953582	$6.268612	-$684,970.74
2003	181.7	120.892	1.21	$7.134195	$6.333824	-$800,370.86
2004	185.2	123.220	1.23	$7.271617	$6.566672	-$704,945.30
2005	190.7	126.880	1.27	$7.487567	$6.696950	-$790,617.01

cost $6 million in FY 1995. Transformed consumer price index values, along with the Fund revenue from FY 1995 through FY 2005, are provided in Table 2, along with the differences between the yearly values.

The purchasing power of the Fund is declining each year. The cost of goods and services, indicated by the transformed CPI, are growing more rapidly than Fund revenue. This divergence is

Figure 3. Transformed CPI and Fund Revenue.



evident in Figure 3, which depicts transformed CPI and Fund revenue for FY 1995 through FY 2005. The approximate cost of $6 million worth of goods and services purchased in FY 1995 increased each year by about $155,000, compared to the average increase in Fund revenue of about $70,200. This divergence of approximately $80,000 per year leads to a reduction of nearly $800,000 in the Fund's buying power over a ten-year period and over $1 million over the life of the Fund to date.

Future Projections

Historical revenues provide the best available estimate for future revenue projections. Performing a least squares analysis to calculate a straight line that best fits the historical revenue data for the years that were considered to be representative of a complete year (1995 - 2005) yields the linear function **y = 0.0702x - 134.08**. This regression, as noted above, indicates that revenues are increasing by approximately $70,200.00 each year, on average. The coefficient of determination resulting from the least squares regression indicates that 88% of the total variation in revenues can be explained by the linear relationship between fiscal years and revenue. The other 12% of the variation in revenues is not correlated to fiscal years.

Projections estimated from the regression equation seem to provide an acceptable prediction. Recognizing that it is difficult to identify all of the contributing factors that affect utilization of petroleum fuels, and nearly impossible to establish trends for even the major factors affecting gasoline, diesel, and aviation fuel use, the linear equation is likely the most appropriate tool for making future revenue projections. Applying the linear regression equation to fiscal years 2006 through 2011 produces the projections provided in Table 3. These revenue projections are depicted by the trend line shown in Figure 1.

Table 3. Projected revenue

Fiscal Year	Projected Revenue
2006	6.741
2007	6.811
2008	6.882
2009	6.952
2010	7.022
2011	7.092

Trends in Expenditures

Fund administrative expenses appear to have a predictable pattern, consistent with cost of living, while claim expenditures exhibit no definable pattern. Following an initial rapid growth period (FY 1990 - FY 1994), personal services and operating expenses indicate a pattern and trend correlated to the consumer price index. A detailed analysis of claim expenditure indicates the average expenditures for the last eleven years, which follow a start-up period, is likely the best predictive technique.

Administrative Expenses

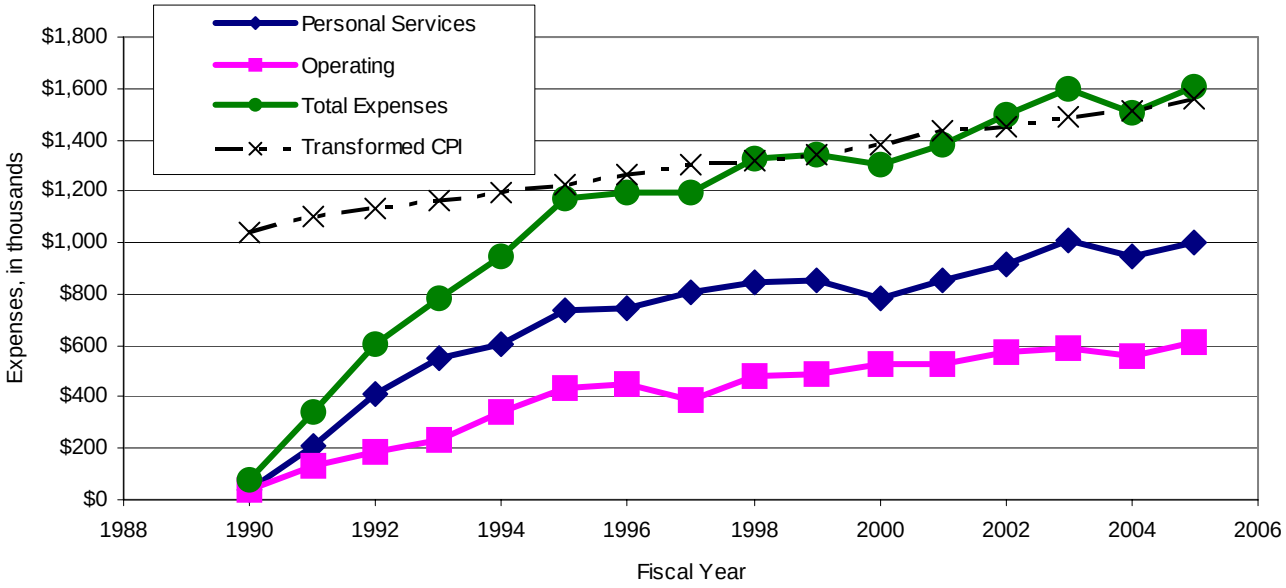
The growth of total administrative expenses appears to approximate the cost of living, while separate categories of administrative expenses have not grown as rapidly as the cost of living. The expenses incurred by the Fund that are associated with administrative activities can be grouped into two categories; operating expenses and personnel expenses. Due to the fact that the Board and the Fund-supported DEQ administrative costs have not always been separate in the State of Montana financial system, the summary provided in this report will examine the combined costs for both the Board and the DEQ. Personal services, operating expenses, and the combined total administrative expenditures for FY 1990 through FY 2005 are provided in Table 4.

Table 4. Personal services and operating expenses.

Fiscal Year	Personal Services	Operating Expenses	Total
1990	$37.97	$42.16	$80.14
1991	$212.05	$128.22	$340.27
1992	$414.10	$187.36	$601.47
1993	$547.82	$234.72	$782.55
1994	$608.90	$340.41	$949.31
1995	$738.52	$435.70	$1,174.22
1996	$741.41	$450.56	$1,191.97
1997	$809.31	$388.03	$1,197.34
1998	$847.58	$478.95	$1,326.53
1999	$851.78	$491.12	$1,342.90
2000	$782.84	$523.73	$1,306.58
2001	$851.79	$527.52	$1,379.30
2002	$918.45	$577.50	$1,495.96
2003	$1,008.33	$588.25	$1,596.58
2004	$949.49	$559.42	$1,508.91
2005	$997.70	$610.96	$1,608.66

Personal services consists of salaries and benefits for persons engaged in review of materials for eligibility determination, claims for actual, reasonable, and necessary costs, and work plans for cost control, technical management of corrective action for releases, and associated administrative activities. Operating expenses include direct operating, contracting, general and administrative expenses. Personal services, operating expenses, and the combined total administrative expenditures for FY 1990

Figure 4. Personal Services, Operating Expenses, and Combined Total Expenditures.



through FY 2005, along with the transformed CPI, are depicted in Figure 4. Figure 4 depicts a sharp rise in expenses as the program matured over the first four years. Total combined expenditures then begin to trend more closely with the CPI. Neither personal expenses nor operating expenses appear to grow as rapidly as the CPI between FY 1995 and FY 2005.

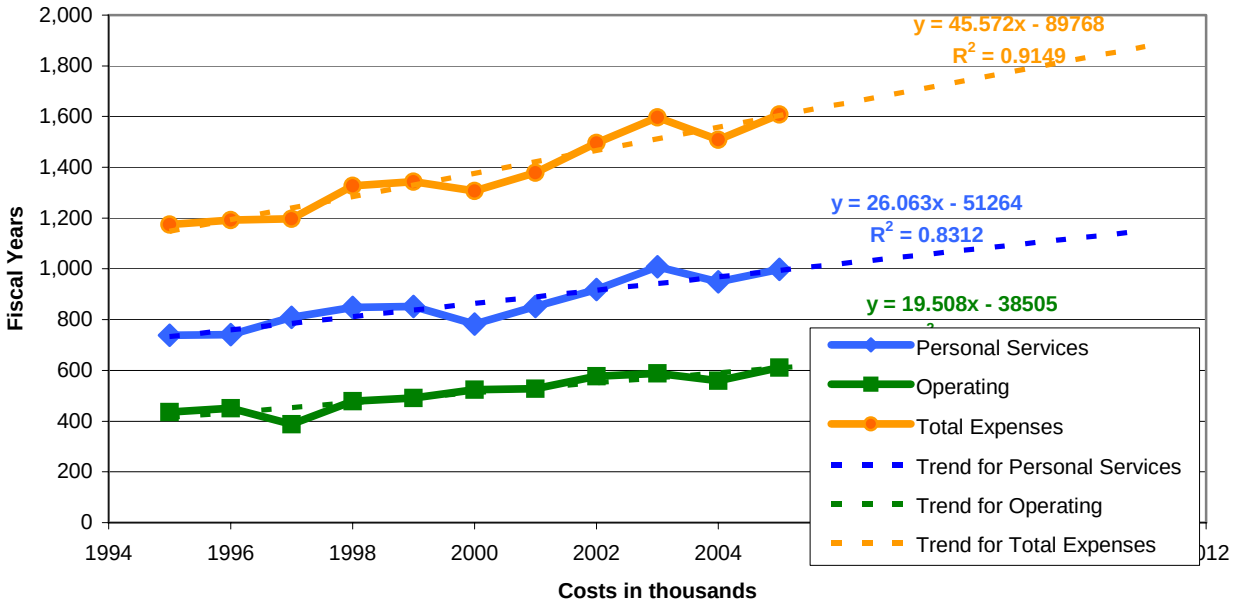
Future Administrative Expense Projections

The more recent expenditures are likely the best available information to use to provide an estimate for future administrative expense projections. The expense curves, presented in Figure 5, can be viewed in two parts. These two periods have differing

rates of growth. The two periods are most evident in the combined total curve, but can be observed to a lesser extent in the curves representing personal services and operating expenses. The early period (FY 1990 – FY 1995) is associated with the initial growth and development of the program and reflects a steeply increasing trend as the program staffed up to meet legislative expectations. The later years (FY 1995 – FY 2005) reveal a shallower increasing curve that is more representative of stabilized operations and efforts to reduce administrative costs.

A linear regression model applied to the more recent expense data is likely the most reliable predictor of future administrative expenses. If one ignores the potential for unforeseen factors that may impact administrative spending, the fiscal year can be used as the dependent variable in a predictive model. Performing a "least squares" linear regression analysis to calculate a straight line that best fits the more recent expense data, which is considered to be representative of stabilized operations, yields functions that can reasonably predict future expenses. The linear regression, function (equation), and coefficient of determination (R^2) are depicted in figure 5. Most statisticians would consider that the coefficient of determination for each of these regressions suggests a

Figure 5. Linear Regression Using Recent Expenes.



reasonable model for the data. These models estimate that costs will increase approximately $19,508.00, $26,063.00, and $45,572.00 per year for operating expenses, personal services, and combined total expenses, respectively. This indicates that expenditures will likely be in step with the cost of living, resulting in total expenditures of $1.9 million in FY 2011.

Subrogation is an important element to be considered in the next biennium. Subrogation is a general principle of law that allows the Board, who covers the cost of the corrective action, to eventually recover those payments from the insurance company legally liable for the corrective action. The Board assumes the legal rights of the owner/operator for whom the Board has paid expenses in regard to a claim against an insurance company for a covered loss paid on behalf of the owner/operator. Although subrogation activity costs are included in the expenses mention above, recoveries were not evaluated. Revenue from fees significantly outweighs any other current revenue type. However, the program is embarking on subrogation recoveries, which may change both the revenue and the expenditure projections. Although subrogation revenue should be evaluated separately, there are currently insufficient historical data, as well as future legal uncertainties in the program which preclude reliable analysis at this time.

Table 5. Claim expenditures by fiscal year.

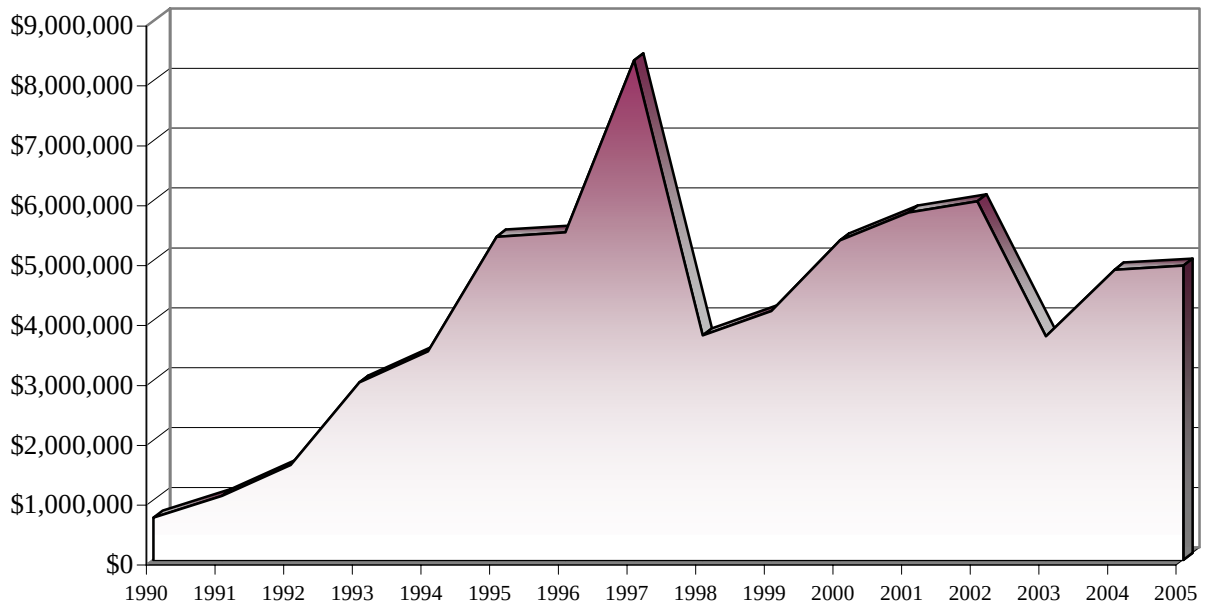
Fiscal Year	Claims
1990	$703,653.28
1991	$1,065,514.92
1992	$1,585,906.16
1993	$2,960,965.77
1994	$3,480,161.88
1995	$5,394,682.48
1996	$5,465,402.00
1997	$6,339,423.82
1998	$3,748,623.21
1999	$4,153,031.36
2000	$5,334,095.37
2001	$5,799,130.55
2002	$5,985,691.11
2003	$3,731,611.03
2004	$4,844,535.10
2005	$4,911,911.04

Claim Expenditures

Identifying the controlling parameters for claim expenditure is difficult. The annual claim expenditures for FY 1990 through FY 2005 are listed in Table 5. Claim expenditures climbed from $703,653.28 in FY 1990 to $5 million by FY 1995. Taking into account a $2 million litigation settlement paid as claims in FY 1997 indicates that expenditures for claims from FY

1995 through FY 2005 were variable, yet with a narrow range from about $4 million to around $6 Million. A graph of the data is provided in Figure 6. These data were analyzed using regression techniques on all the data (FY 1990 – FY 2005), as well as on various groupings of the data. Attempts were made to remove postulated influential parameters in an attempt to identify the leading influential parameter(s). This included

Figure 6. Claim Expenditures by Fiscal Year.



removing one-time litigation settlements, as well as attempts to compare translated datasets of work plan activity and personal services expenditures. None of the analyses resulted in a correlation coefficient or coefficient of determination that could be considered reasonable for model representation.

Future Claim Projections

The average annual claim expenditure is likely the best available predictor to provide an estimate for future claim expenditure projections. This analysis focused on the data and did not take into consideration any impacts from potential influential outside actions (such as regulatory changes), nor any long-term strategic plans. Since no sufficient

regression model was found to have a significant coefficient of determination, and no other parameter was found to be sufficiently correlated to be used as a predictive tool, the best predictor of future claims is average expenditures.

Annual claim expenditures for the next five years are projected at $5 million per year. The historical annual claim expenditures can be averaged with litigation settlements included or excluded. In addition, it is worth noting that the claim expenditures exhibit what appears to be a ramp-up period between FY 1990 and FY 1995. Recognizing these considerations yields four averages of interest: FY 1990 – FY 2005 with settlements, FY 1990 – FY 2005 without settlements, FY 1995 – FY 2005 with settlements, and FY 1995 – FY 2005 without settlements. These averages are $4,219,021.19, $4,094,021.19, $5,246,194.28, and $5,064,376.10, respectively. These averages indicate that the litigation settlements increase the average annual claim expenditure by $125,000 to $180,000, depending on which time period is selected. Given that the litigation settlement was a single occurrence over a 17 year period, it seems inappropriate to include it in any future predictions. In addition, since it appears that FY 1990 through FY 1995 was a period in transition, it seems appropriate to use the average of $5.06 million per year, calculated from claim expenditures from FY 1995 through FY 2005, without settlements, as the prediction for future claim expenditures.

Exposure to Long-Term Liabilities

The rate at which the Fund is taking on obligations that extend beyond the current year appears to be declining, and existing obligations are being reduced. The decline in the rate of new obligations is a result of a decline in newly discovered releases, the severity of those releases, possible private insurance coverage for some releases, Board initiatives, and ongoing efforts to close releases. On a release-by-release basis, existing obligations continue to decline because of ongoing corrective action meeting cleanup objectives, and a DEQ focus on the resolution of releases. Future obligations may be further reduced as a result of federal requirements focused on preventing

releases. Regulatory changes, private insurance and the fee are important components of obligations and the ability to take care of what appears to be peak obligations. In the near future obligations may temporarily increase depending on the approach taken by the Board to assist aboveground storage tank owners to upgrade facilities to current standards.

New Releases

Trends in new releases indicate that the number of releases discovered each year appears to be decreasing. The reduced total number of new releases occurring each year will reduce long-term liabilities. Although a regression analysis indicates there is insufficient correlation between a linear "least squares" trend and the discovery data, the number of confirmed releases in 2004 and 2005 had been below the five year average and below the numbers for the prior three years. A sustained reduction in the number of confirmed releases per year would help reduce the long-term expenditures of the Fund.

In addition to a decrease in the number of new releases per year, it appears the environmental impact per discovery may be declining. Some of the new releases being discovered are a result of historical contamination found during recent environmental assessments. Others are related to recent incidents. The general causes of releases each year have been changing over time. Human error and equipment failure were the two leading causes of releases; however, in recent years human error has been on the rise and equipment failures appear to be declining (MUST News, Spring 2006). This may be good news for the Fund. Many of the human-error-caused releases are minor spills, and some of them have been found to have insurance coverage, which is being exhausted before the corrective action is reimbursed by the Fund. The shift in causes and the possibility of private insurance coverage indicate that releases now being discovered may not result in as large a draw on the Fund as did earlier releases. Fewer and smaller new releases will allow DEQ technical staff to place additional focus on lower priority releases.

The types of tanks that experienced a release each year may also show helpful trends. Percentages for releases from USTs considered to be “in compliance” with current standards and for releases from ASTs appear to be remaining constant. Trends in releases from different types of tanks indicate the percentage of releases discovered from unknown tanks, or pre-1986 tanks, appear to be decreasing. Although there is insufficient data to provide a reasonable predictive model for these types of tanks, the percentage of releases from these types of tanks in 2004 and 2005 have been below the five year average and below the percentages in the prior three years. This annual decline in the number of unknown tanks would help to reduce the total long-term liability of the Fund for cleanup.

The Board is examining strategies associated with development of an initiative to reduce the number of releases from ASTs. There are ASTs that do not comply with current storage tank standards. Older installations are only required to be in compliance with regulations at the time of installation. Compliance of existing tanks with current standards is often only necessary if the aboveground storage tank system is upgraded. The Board has recently developed a checklist aimed at assisting AST owners with recognizing the systems that fall short of current standards, in an effort to encourage owners and operators to work towards updating their systems so those systems would be considered in adherence with current standards. This effort will most likely result in an initial increase in reports of releases from ASTs. The Board believes that over the long term adherence with current standards will result in a decline in the number of releases from ASTs. The Board is attempting to balance this strategy with available funds.

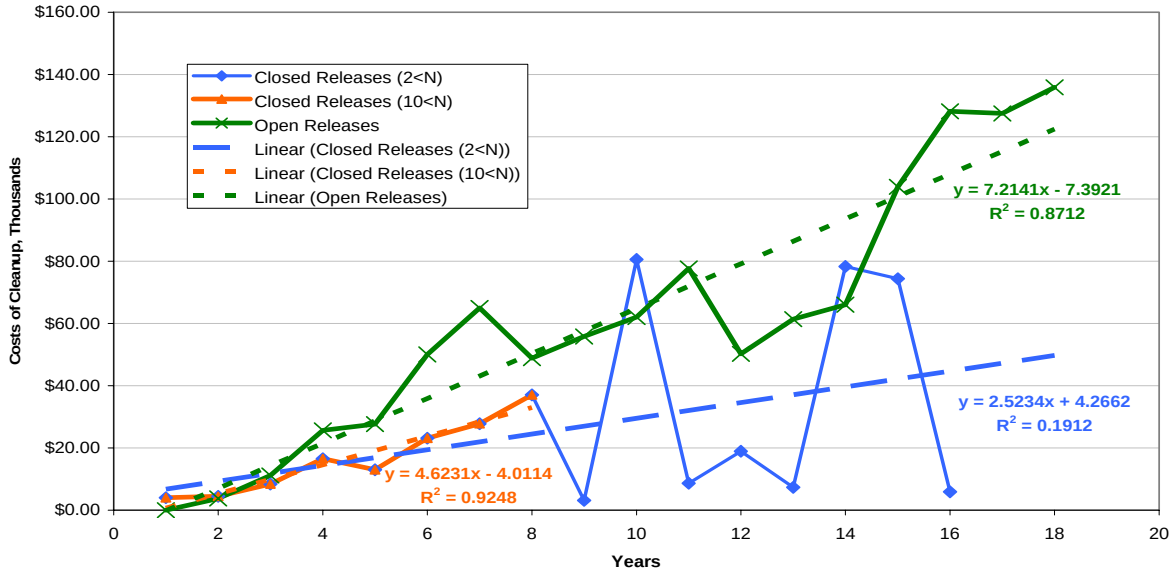
Historical Releases

Historical releases fall into two categories, open releases and closed releases. Both categories of releases have the potential to impact long-term reimbursements. Open releases have long-term liabilities related to their on-going corrective action, and closed

releases have the potential, although limited, to be re-opened. DEQ uses an internal closure committee to focus on site closure. As a result, there have only been a few releases re-opened in recent years and, therefore, the re-opening of releases does not appear to be a significant long-term liability to the Fund.

Analysis indicates that average reimbursements for releases increase with the number of years of corrective action. It is intuitive that the total reimbursement for a release increases with the number of years that corrective action is being conducted. What is not known is how much reimbursement is likely made per year on a release. Total reimbursements were analyzed by grouping the reimbursements into two categories, open releases and closed releases. These two groups were then organized by the number of years the release had remained open or the number of years the release was

Figure 7. Average Reimbursement by Year for Open and Closed Releases



open before it closed. Averages were computed for each of these sets of data. These averages are depicted as line graphs in Figure 7 for the two categories, open releases and closed releases. The curves indicate that averages for samples containing ten or more sites per category yield a more meaningful association; therefore, averages for

sites taking longer than eight years to close were not considered to be of sufficient statistical significance, since their sample size was not more than ten.

The analysis indicates that annual reimbursements for a release average about $6,000.00. A linear regression of the closed sites for the years considered to have significant scientific value indicates that, on average, another $4,632 was spent on a release in each year it remained open. A linear regression of the open releases indicates that on average the reimbursement for an additional year would average $7,214. Since it is uncertain what percentage of releases will close in the next five years, the average slope of the two regression lines would be considered the best predictor. Using the average of the two trend lines yields an estimated annual reimbursement for active releases of $6,000 per release.

The ability to estimate the ongoing liability to the Fund of currently open releases and releases that will be closed is difficult. Although an estimate of the number of closures may be obtainable from historical data, it may not be appropriate scientific method to estimate the number of sites that are expected to close in the next five years. The number or closures expected in the next five years is likely to increase, due to ongoing department efforts to facilitate closures of release sites

Other Potential Impacts

Other topics of this report will likely play a role in the understanding of long-term Fund liabilities. Although we may have expectations associated with new and historical releases, possible regulatory changes, the role of insurance and changes in the fee would change the perspective of Fund liabilities. For instance, the lowering of acceptable levels of petroleum constituents would impact release closures and cleanup activity and result in a shifting of the predicted trends. It is important to utilize the information provided in other sections of this report in order to obtain a more accurate picture of Fund liabilities.

Impacts of Changes in State and Federal Regulations

The board is following the progress of several State and Federal regulations which appear to be poised to impact the Fund. The federal regulations being watched include the Energy Policy Act of 2005 and the requirements for Spill Prevention Control and Countermeasure (SPCC) Plan under the Oil Pollution Prevention regulations. State regulatory changes with potential impact to the Fund include statutory changes promulgated by the Board in the 2005 legislative session, state response to the federal regulatory changes, and possible modifications to AST management.

Energy Policy Act of 2005

On August 8, 2005, President Bush signed the Energy Policy Act of 2005 (Energy Policy Act or the Act). Title XV, Subtitle B of this act (the Underground Storage Tank Compliance Act of 2005) contains amendments to Subtitle I of the Solid Waste Disposal Act, the original legislation that created the federal UST program which allowed delegation to the States. The new law affects federal and state underground storage tank programs and is aimed at reducing releases from underground storage tanks to the environment.

The UST provisions of the Energy Policy Act focus on preventing releases. Among other things, it expands eligible uses of the Leaking Underground Storage Tank (LUST) Trust Fund, and includes provisions for funding inspections, operator training, and delivery prohibitions. Secondary containment and financial responsibility for underground storage tanks, and cleanup of releases that contain oxygenated fuel additives are also addressed.

EPA published a 14-page update that provides information about its on-going work to implement the UST provisions of the Energy Policy Act, as a way to share implementation activities for the UST provisions of the Act with interested and affected UST stakeholders. EPA mentioned they are working to implement six primary areas of the new legislation:

Inspecting Underground Storage Tanks (Section 1523) 3
Operator Training (Section 1524) 5
Public Record (Section 1526) 7
Fuel Delivery Prohibition (Section 1527) 9
Secondary Containment (Section 1530) 11
Financial Responsibility/Installer Certification (Section 1530) 13

The timeline for implementation of these initiatives is not certain. EPA indicated timelines ranging from Spring 2006 through August 2010 in their March 2006 update. Montana currently has programs corresponding with several of EPA's initiatives, including UST inspections and operator training. It is not certain when EPA will be requiring implementation of all of the initiatives.

The new law is aimed at reducing underground storage tank releases to the environment. Reducing UST releases will help to reduce the burden on the Fund. As the UST initiatives are implemented, releases to the environment should be reduced and therefore the expenditure by the Fund should be reduced.

Board Legislation

The impacts to short- and long-term liability from statutory changes made to the Board's laws in the 2005 legislative session are uncertain. The 2005 amendments transferred the after-discovery compliance and corrective action implementation requirements to the reimbursement statute from the eligibility statute. Under the original statute, eligibility remained uncertain until the end of the cleanup process for owners and operators who have applied for reimbursement of corrective action costs following

discovery of a release. The amendments made eligibility dependent on simpler criteria that would be applicable for most tanks. A violation of an ongoing after-discovery compliance or implementation requirement will result in suspension of reimbursement and could result in diminution of the amount of reimbursement paid to an owner, in accordance with criteria established by the Board. Such a violation would not change the underlying eligibility determination. Under the new statute an owner could be determined to be eligible, and remain eligible, and yet could be denied full or partial reimbursement if he violated the compliance or implementation requirements. The Board expected that there would be minimal negative impact to Fund liability.

Aboveground Storage Tank Activities

There are two initiatives found to have a possible impact on liabilities associated with aboveground storage tanks (ASTs). These include EPA amendments to the Oil Pollution Prevention and Response regulations, and the Board's examination of the potential need for AST inspections.

On July 17th, 2002, EPA issued a final rule amending the *Oil Pollution Prevention and Response* regulations promulgated under the authority of the Federal Water Pollution Control Act (Clean Water Act). This rule addresses requirements for *Spill Prevention, Control and Countermeasure* Plans (SPCC Plans), and some provisions may also affect Facility Response Plans (FRPs). The goal of the oil pollution prevention regulation is to prevent oil discharges from reaching navigable waters of the United States or adjoining shorelines. The rule was also written to ensure effective responses to oil discharges and specifies that proactive, not passive, measures are to be used to respond to oil discharges. On December 12, 2005, EPA proposed two separate amendments to the SPCC rule. The first streamlines the regulatory requirements for qualified facilities and equipment, and the second extends the SPCC compliance dates for all facilities. The implementation of proactive measures and effective responses to oil discharges is expected to reduce the degree of environmental contamination, and result in reduced future Fund liability.

The board is taking into consideration that in order to better protect the state's environment and natural resources from aboveground petroleum storage tank spills, an inspection program may be necessary. The board has established a workgroup to examine the possible need, and to propose a strategy. The workgroup has proposed a strategy that is being considered by the board. The strategy includes the use of a self-inspection checklist that would be the foundation of an inspection program. The intent is to implement measures to prevent spills and encourage owners and operators to upgrade facilities to current standards.

Other Regulatory Concerns

Two additional areas being watched by the Board include state standards and recent interest in indoor air quality. There do not appear to be any proposed changes to current standards; however, changes in standards could impact Fund liabilities and, as a result, the board is attempting understand any possible changes. Indoor air is now being considered a potential receptor at some releases. Chemical concentrations in the vicinity of dissolved site-related hydrocarbons could potentially adversely affect indoor air quality. Indoor environments do not lend themselves well to traditional command-and-control approaches and both EPA and the State will be looking at indoor environmental quality in the years to come.

Availability of Petroleum Storage Tank Liability Insurance

Storage tank pollution insurance coverage appears to be currently available in Montana; however, we were unable to verify coverage with the State Auditor's office. Information pertaining to pollution liability coverage was not available in the information recorded and monitored by the auditor's office.

Coverage can be written on a claims–made policy so that coverage is only valid for leaks or releases that start after the activation date. The policy would not cover pre-existing contamination. If the tank owner cancels coverage, the policy may include an automatic 6-month extended reporting period for claims that occurred while the policy was in effect. Insurers will usually extend the coverage reporting period beyond 6-months for an additional premium.

The board staff conducted an email survey of insurance agents/brokers that the internet indicated would provide pollution coverage for petroleum storage tanks. Such coverage is available in all states. The survey resulted in the identification of 12 agents/brokers that could provide coverage.

Insurance Survey

Each insurance agent/broker was sent an email and asked to identify the approximate annual premiums for $1 million in coverage, with a $15,000 deductible for new petroleum releases at two different types of typical facilities which were being operated in compliance with insurance and state requirements. The first facility had three 10,000 gallon underground, single-walled storage tanks less than five years old. The second facility had three 20,000 gallon aboveground tanks with aboveground piping, less than 10 years old. Respondents were advised that the information provided would not be used to compare prices between providers but to summarize available coverage information.

The annual premiums reported for the underground facility ranged from $500.00 to $2,500.00 per facility. The vast majority of underground facilities have a current state operating permit. The annual premiums for the aboveground facility ranged from $500.00 to $3,500.00 per facility. However, the staff does not believe a majority of the AST facilities in Montana would be considered in compliance with current NFPA Fire Code requirements, which was a condition of the AST annual premium survey.

The following comments on the survey should be considered:

1. Survey did not consider facilities that have both aboveground and underground storage tanks.
2. Survey did not ask if the policy covered investigation, cleanup and monitoring costs.
3. Survey response does not consider possible impacts a release would have on future premiums.
4. Survey does not reflect loss history at a facility.
5. Survey does not reflect costs for new release at facilities that have historical contamination. (It may be difficult to distinguish between historical contamination and a new release.)
6. If an owner/operator is unable to obtain pollution coverage at any price, will the facility be allowed to remain open?
7. The premium depends on the type of facility and the construction, age, size and number of tanks.
8. What will be the costs to owners/operators to bring a new facility up to the insurance company standards before coverage is obtainable or affordable?
9. Survey did not address aboveground farm, residential and commercial heating oil tanks.
10. The existence of Spill Prevention Control and Countermeasure plans at AST facilities was not considered in the premium prices.
11. Existing AST bulk plants are currently required to be in compliance with the Fire Code requirements at the time the facility was constructed. Upgrading to current NFPA Fire Code is not required by the state unless significant changes are made to fixtures. The expense of upgrading an existing bulk plant to current NFPA fire code requirements could be cost prohibitive for some owners/operators.
12. Insurance training requirements and recordkeeping of insurance companies for station attendants could be extensive and costly.

No trends in provisions of the insurance could be established due to only recent availability of storage tank pollution insurance coverage.

The Petroleum Tank Release Cleanup Fee

The continuing need for collection of all or part of the petroleum tank release cleanup fee is dependent on the role the Fund plays in the use and management of petroleum. Local governments have experienced the benefits of Fund eligibility and the pitfalls of ineligibility. Had it not been for the Fund many contaminated properties would have

been left to local governments to remediate. Owners and operators of petroleum storage tanks are pleased with what the program is accomplishing and desire to see the program remain an effective part of the future of Montana. They feel it is equitable, since those that consume the product pay to protect the environment at a rate that is correlated to utilization and risk. They appreciate that the Fund has assisted in the cleanup of both new releases and old contamination left behind, predominantly by large oil companies. They believe that this program, more than all other possible programs, makes it more viable for businesses in small communities to remain in the marketplace, resulting in more choices for both local and transitory consumers. The question most often asked by owners and operators is, can the Fund make it through the peak in cleanup costs associated with a legacy of historical contamination and be a viable program for the future?

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DEFINITIONS

Consumer Price Index - An index prepared and published by the Bureau of Labor Statistics of the Department of Labor which measures average change in prices over time in a fixed market basket of goods and services typically purchased by consumers. The Consumer Price Index is one way the government measures the general level of inflation. http://www.bls.gov/cpi/

Coefficient of Determination - Compares the fitted (estimated) curve and actual data, and ranges in value from 0 to 1. If it is 1, there is a perfect correlation between the fitted curve and the data. — At the other extreme, if the coefficient of determination is 0, the fitted equation is not helpful in predicting values.

Correlation - Refers to relationship between two variables during a period of time which indicates whether and how strongly pairs of variables are related.

Least Squares - The method of least squares assumes that the best-fit curve of a given type is the curve that has the minimal sum of the deviations squared (least square error) from a given set of data. The least-squares line method uses a straight line ($y=mX+b$) to approximate the given set of data (x_1,y_1), (x_2,y_2), …..(x_n,u_n).

Subrogation - Assuming the legal rights of a person for whom expenses or a debt has been paid. Typically, subrogation occurs when the Board, which pays owners and operators for corrective action costs, sues the insurance company which the owner or operator contends had obligation to indemnify them.