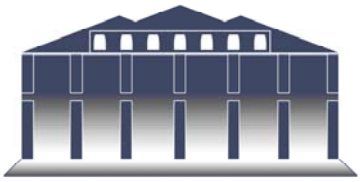
Eliminating the Underground Storage Tank Cleanup Backlog Will Require at Least $549 Million

Final Report to the Joint Legislative Program Evaluation Oversight Committee

Report Number 2009-03

November 9, 2009



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John W. Turcotte
Director

November 9, 2009

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Honorable Co-Chairs:

The Program Evaluation Division 2009-2010 Work Plan, updated September 1, 2009, directed the Program Evaluation Division to evaluate the operations and outcomes of the Department of Environment and Natural Resources's Underground Storage Tank Program. The study evaluated the outcomes of current policy implementations and determined if current funding structures are sufficient to support program needs.

I am pleased to report that the Department of Environment and Natural Resources's Underground Storage Tank Section cooperated with us fully and were at all times courteous to our evaluators during the evaluation. This evaluation would not have been possible without their support.

Sincerely,

John W. Turcotte
Director

PROGRAM EVALUATION DIVISION
NORTH CAROLINA GENERAL ASSEMBLY

November 2009 Report No. 2009-03

Eliminating the Underground Storage Tank Cleanup Backlog Will Require at Least $549 Million

Summary

The North Carolina General Assembly established the Underground Storage Tank (UST) Program within the Department of Environment and Natural Resources in 1985 in response to a federal mandate to regulate USTs. The UST Program enforces the federal regulatory standards for commercial USTs, oversees site cleanup of UST incidents, and manages operations for the Commercial and Noncommercial Leaking Petroleum UST Trust Funds.

An UST incident occurs when any petroleum release of more than 25 gallons or any release of less than 25 gallons causes a sheen on surface water or cannot be cleaned up within 24 hours. The Commercial Fund assists commercial tank owners in meeting their federal financial responsibility requirements. The Noncommercial Fund reimburses private property owners for cleanup costs and leak-related damages.

Since the UST Program's inception, North Carolina has spent more than $543.7 million to clean up UST incidents. Even so, significant cleanup work remains. The Program Evaluation Division found

- it is projected to take 25 years to complete the cleanup of North Carolina's commercial backlog with current funding;
- commercial tank owners' continued reliance on the Commercial Fund increases North Carolina's future liability for cleanup costs;
- Noncommercial Fund solvency is in jeopardy because North Carolina pays the entire cost of cleanup for a growing number of sites; and
- operational limitations hinder the UST Section's ability to prevent and clean up incidents.

In light of these findings, the Program Evaluation Division recommends the General Assembly increase revenue to the two funds to allow the UST Program to expedite cleanup of the backlog. To reduce North Carolina's future liability, the General Assembly should introduce a risk-based system of financial responsibility for commercial tank owners and require noncommercial tank owners to pay a share of cleanup costs. The General Assembly also should provide policy direction and increased regulatory authority to the UST Section to improve program operations.

Scope

Since 1985, North Carolina has spent more than $543.7 million[1] dollars to address spills and leaks from underground storage tanks (USTs). In March 2009, the Joint Legislative Program Evaluation Oversight Committee[2] directed the Program Evaluation Division to evaluate operations and outcomes of the North Carolina Department of Environment and Natural Resources's (DENR's) UST Program.

This evaluation addresses three questions:

- Do UST Program policies and operations achieve desired environmental outcomes efficiently and effectively?
- Are current sources of funding for the Commercial and Noncommercial Leaking Petroleum UST Trust Funds sufficient for current and future UST incident remediation?
- Are there better alternatives for operating and funding the UST Program that North Carolina should consider?

Regulation and oversight of above-ground storage tanks and transportation of hazardous substances and petroleum products were not included in the scope of this evaluation.

The Program Evaluation Division collected data from multiple sources, including

- interviews with DENR and UST Section management and staff;
- focus groups and interviews with key stakeholders, including
    - Environmental Protection Agency, Region IV staff,
    - North Carolina Petroleum and Convenience Marketers Association,
    - business owners of commercial USTs,
    - individuals who have accessed the Noncommercial Leaking Petroleum UST Trust Fund,
    - environmental consultants,
    - legislative staff and environmental advocates and experts,
    - North Carolina Farm Bureau, and
    - North Carolina Realtor Association;
- review of state and federal code and regulations;
- review of internal agency documents and guidance documents for commercial UST owners;
- review of other state programs;
- fiscal and operations data from the UST Section;
- observations of inspections, site cleanup, and claims processing operations;
- interviews with and review of data from other states; and
- telephone queries with private insurance companies and review of policies and applications for UST coverage.

[1] This figure includes trust fund monies spent between Fiscal Years 1987-88 through 2009-10 to clean up spills or leaks from underground storage tanks.

[2] The Joint Legislative Program Evaluation Oversight Committee establishes the Program Evaluation Division's work plan in accordance with N.C. Gen. Stat. § 120-36.13.

Background

The North Carolina General Assembly established the Underground Storage Tank (UST) Program in 1985 to comply with a federal mandate to regulate USTs through tank registration, installation and repair, inspection, closure, financial responsibility requirements, and cleanup standards for leaks from USTs. The General Assembly designated the Department of Environment and Natural Resources (DENR) as the state agency to regulate USTs, and DENR's UST Section within the Division of Waste Management regulates UST activities. The glossary in Exhibit 1 defines terms used throughout this document.

Exhibit 1

Glossary of Terms

Commercial underground storage tanks are regulated underground storage tank systems with underground piping connected to a tank with at least 10% of its combined volume underground.

Commercial Fund (or the Commercial Leaking Petroleum UST Cleanup Fund) is a non-reverting, revolving fund established by North Carolina to pay for cleanup costs and third-party liability resulting from a petroleum spill or leak from a commercial underground storage tank. Access to the trust fund requires that UST owners demonstrate their ability to pay the fund deductible using a financial assurance mechanism, such as insurance or letters of credit.

Noncommercial underground storage tanks are non-regulated underground storage tanks including farm or residential motor fuel tanks with a capacity of 1,100 gallons or less, heating oil tanks with a capacity of 1,100 gallons or less, and heating oil tanks with a capacity greater than 1,100 gallons serving one to four households.

Noncommercial Fund (or the Noncommercial Leaking Petroleum UST Cleanup Fund) is a non-reverting, revolving fund established to pay for cleanup costs and third-party liability resulting from a petroleum spill or leak from a noncommercial underground storage tank.

Cleanup describes actions taken to restore the environment after a petroleum spill or leak occurs.

Corrective action describes the process for cleaning up environmental damage resulting from a petroleum spill or leak from an underground storage tank including initial site assessment, site characterization, environmental indicators, and selection and implementation of the remedy.

Incident is any petroleum release of more than 25 gallons or any release of less than 25 gallons that causes a sheen on surface water or cannot be cleaned up within 24 hours.

Third-party compensation is paid by the Commercial and Noncommercial Funds for bodily injury and property damages in excess of $100,000.

Financial assurance demonstrates adequate funds will be available to conduct the necessary cleanup of a petroleum spill or leak from an underground storage tank.

Financial responsibility requires commercial tank owners to have a financial assurance mechanism or a combination of mechanisms to pay for the cost of cleanup and third-party damages resulting from a petroleum spill or leak from an underground storage tank.

Orphan sites are sites for which no financially responsible party can be identified or the responsible party cannot under any circumstances cover the deductibles associated with cleanup costs. These sites become part of the state-led program, where the state directs corrective action and pays the entire cost for cleanup.

Source: Program Evaluation Division based on UST Section documents.

In the 1980s, the federal government identified and responded to environmental and public health threats posed by leaking USTs. The federal government amended the Resource Conservation and Recovery Act in 1984 to establish a program to regulate USTs larger than 1,100 gallons containing petroleum or certain hazardous substances for commercial operations or retail purposes.[3] This act directed the Environmental Protection Agency (EPA) to establish operating requirements, technical standards for tank design and installation, leak detection measures, spill and overfill control mechanisms, leak and spill cleanup guidelines, and tank closure procedures. The equipment covered by the Resource Conservation and Recovery Act includes fill ports, tanks, piping, and dispensers. Appendix A provides a graphic describing a typical commercial UST system subject to these regulations.

Amendments to the Resource Conservation and Recovery Act require commercial UST owners to provide financial responsibility for the cost of cleanup and third-party damages resulting from incidents involving UST systems. Under the federal financial responsibility requirements, commercial UST owners must have some financial assurance mechanism or combination of mechanisms to demonstrate their ability to pay for the cost of cleanup and third-party damages. Exhibit 2 organizes a description of financial assurance mechanisms and the financial obligations associated with each type from highest to lowest risk to the owner.

State UST programs establish a Memorandum of Understanding with the federal government that clearly defines the limited role of the federal government and the lead role of the state in addressing USTs. Through the Memorandum of Understanding and annual federal-state agreements, the EPA uses performance measures to evaluate each state's program. Prevention performance is measured in terms of state inspection compliance rates and the number of new incident discoveries. Incident cleanup performance is measured by the number of incidents closed with cleanup completed and the number of incidents in backlog waiting for cleanup.

Federal funding for USTs comes from the Leaking UST Trust Fund in the form of a cooperative agreement grant for cleaning up leaking tanks and a grant for administering the regulation of commercial tanks. The EPA distributes grant funds based on a formula that considers minimum distribution amounts, state need, and program performance. In Fiscal Year 2008-09, the North Carolina UST Program received $2.6 million in federal grants, which were used to support program administration. In Fiscal Year 2009-10, North Carolina received $7.6 million from the American Reinvestment and Recovery Act.

Federal law holds states responsible for implementing the federal regulation of USTs. The General Assembly responded by enacting legislation directing DENR to regulate USTs in 1985. The General Assembly also created the Commercial and Noncommercial Funds to pay for the costs of cleanup of environmental damages resulting from leaks from USTs.

[3] Federal Code of Regulation, Chapter 40, Part 280.

Exhibit 2: Federally Permissible Financial Assurance Mechanisms for Commercial UST Owners

Mechanism	Degree of Risk to UST Owner	Process
Self-insurance	Owner assumes all risk	Self-insured owners must be able to show at least $10 million in tangible net worth to cover the cost of cleanup and third-party damages.
Surety Bond	Owner ultimately assumes the risk	A surety bond is a promise by the surety to either meet unmet obligations or fund a standby trust fund if the owner or operator fails to conduct corrective actions or pay third-party claims.
Letter of Credit		A letter of credit is a promise by a bank or other financial institution to fund a standby trust fund if the owner or operator fails to conduct corrective action or pay third-party claims.
Trust Fund with Private Trustee		A trust fund is an agreement between the owner or operator and a trustee (usually a bank). The owner or operator funds the trust to the extent that it is used to comply with financial responsibility requirements.
Insurance and Risk Retention Group Coverage	Owner assumes no risk other than the applicable deductible amount in the policy and any costs in excess of policy limits	Insurance coverage is a contract between an owner or operator and an insurance company. The insurance company charges a premium and assumes responsibility for payment of losses covered by the policy up to a policy limit, less any deductibles paid for each incident by the policyholder.
State Fund or Other State Assurance	Owners assume some portion of the cleanup costs through co-pays or deductibles	Operation is dependent on how states structure access to the assurance fund. Tank owners accessing the Commercial Fund in North Carolina are required to meet operation and compliance standards, pay an annual operating fee of $420 per tank, and meet state fund deductibles ($20,000 for cleanup costs and $100,000 for third-party liability).
Guarantee	Owner assumes no direct risk	A guarantee is a promise by the guarantor to fund a standby trust fund if the owner or operator fails to conduct corrective action or pay third-party claims.

Source: The Association of State and Territorial Solid Waste Management Officials (December 2002), Information for Evaluating UST Financial Responsibility Options.

The UST Section is responsible for managing North Carolina's UST Program. The UST Section enforces federal and state prevention standards for commercial tanks and oversees incident cleanup and trust fund operations for commercial and noncommercial tanks.[4] North Carolina's UST Program operates under three tenets: meet and manage financial responsibility requirements, prevent spills and leaks, and oversee site cleanup. These responsibilities are executed by three distinct branches within the UST Section: Permitting and Inspections, Corrective Actions, and Trust Funds. Appendices B and C provide an in-depth description of the UST Section and individual branch operations.

Administrative costs for UST Section operations were $7.9 million in Fiscal Year 2008-09—60% from trust fund revenues, 33% from federal grants, and 7% from state appropriations.[5] The federal grants also provided

[4] Beyond these responsibilities, the UST Section also oversees the cleanup of petroleum spills from above-ground storage tanks, vehicles, pipelines, and other non-UST sources.

[5] The state appropriations were used exclusively for oversight of the above-ground storage tank component of the UST Program.

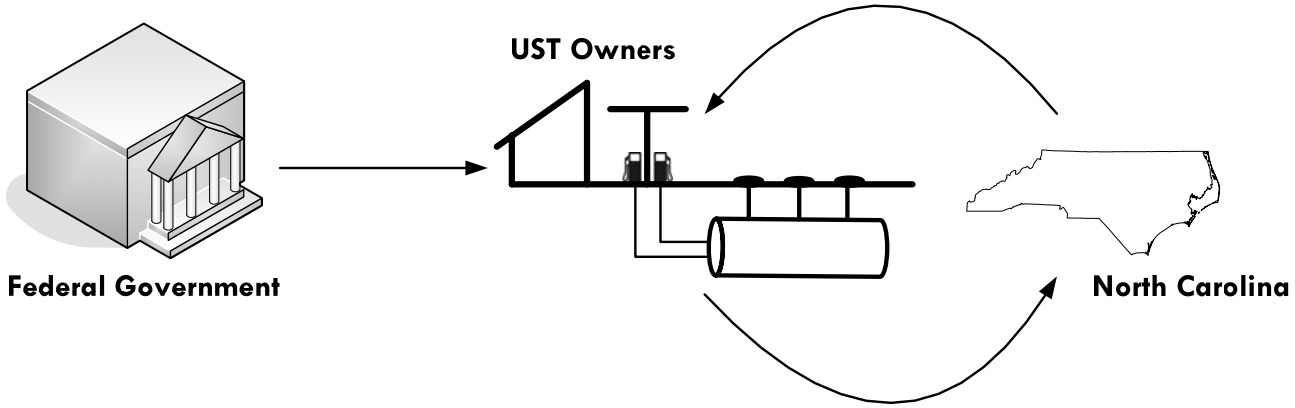
limited financial support for cleanup costs at orphan sites and for administering, overseeing, and enforcing cleanup and compliance program components.

The Commercial Fund was established in 1988 as a federally approved state assurance mechanism to assist UST owners in demonstrating their financial responsibility. Owners of commercial USTs may be eligible to access the Commercial Fund for reimbursement of incident cleanup costs and liabilities accruing from third-party damages. To access the fund, commercial tank owners must be registered with the state, pay an annual operating fee of $420 per tank, and comply with state and federal operating standards. Exhibit 3 shows the levels of financial responsibility required by the federal government and how North Carolina's Commercial Fund assists UST owners in satisfying financial responsibility requirements.

Exhibit 3: Financial Responsibility Requirements

1. Federal regulation requires UST owners to demonstrate financial responsibility for cleanup costs and third-party damages of $500,000-$1 million per incident

2. North Carolina's Commercial Fund provides a financial assurance mechanism that UST owners can access to meet federal financial responsibility requirements



3. To access the fund, UST owners must
- meet operations and compliance standards,
- pay an annual operating fee of $420 per tank, and
- meet cleanup deductibles of $20,000 per incident

Source: Program Evaluation Division based on federal and state regulations.

North Carolina has a large number of commercial tanks compared to other states. A 2008 national survey found North Carolina had approximately 3 tanks per 1000 residents, ranking it ninth among states.[6] As of June 30, 2009, 29,084 commercial USTs in North Carolina were covered by the Commercial Fund. Commercial tanks are located in every county, with three counties (Guilford, Mecklenburg, and Wake) accounting for more than 16% of the total. Commercial tanks in North Carolina are

[6] This annual survey was conducted by the Association of State and Territorial Solid Waste Management Officials through Vermont's Department of Environmental Conservation, Division of Waste Management.

located at 10,063 separate UST facilities, with more than 4,500 owners (see Exhibit 4). Of the 29,084 tanks, over half (54.7%) were installed over 20 years ago (see Exhibit 5).

Exhibit 4

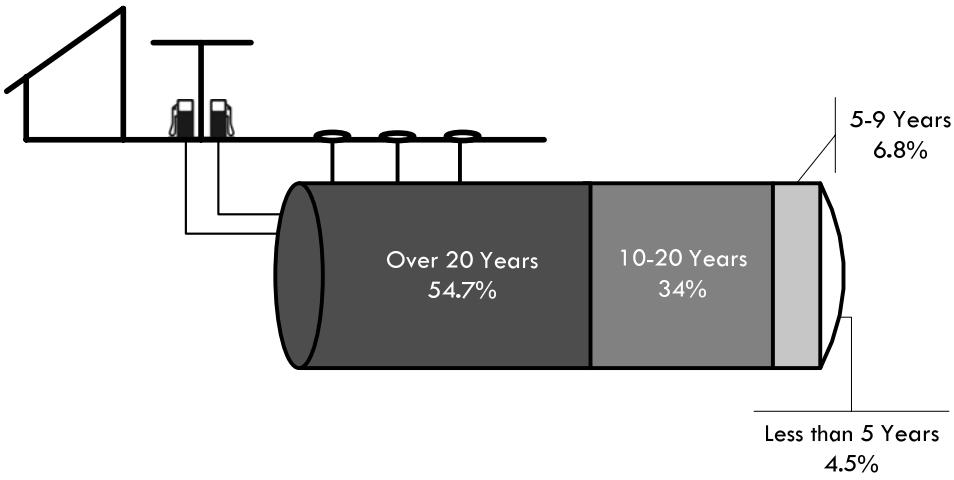
Over Half of North Carolina Commercial UST Facilities are Owned by Less than 10% of Owners

	Number of Owners	Percentage of Owners	Percentage of All Commercial Facilities
One facility	3,770	82.9%	37.5%
Two facilities	281	6.2%	5.6%
Three facilities	102	2.2%	3.0%
Four or more facilities	393	8.6%	53.9%
Total	**4,546**	**100%**	**100%**

Source: Program Evaluation Division based on registered tank data from DENR's UST Section.

Exhibit 5

More than Half of North Carolina Commercial USTs are Over 20 Years Old



Source: Program Evaluation Division based on registered tank data from DENR's UST Section.

The General Assembly created the Noncommercial Fund in 1988 to reimburse private property owners for the costs of cleanup and third-party damages resulting from incidents involving noncommercial tanks. Noncommercial UST owners are required to report releases and clean up contamination from incidents, but they have no financial responsibility for cleanup costs. Because noncommercial tanks are exempt from federal regulations, they are not subject to registration or monitoring requirements. Without registration, the number of noncommercial tanks in North Carolina is unknown.

Since 1988, North Carolina has spent $543.7 million on UST cleanup: $441.2 million was spent on cleanup of commercial incidents and $102.4 million was spent on cleanup of noncommercial incidents.

Although the UST Section has closed 10,699 commercial incidents and 5,473 noncommercial incidents (see Exhibit 6), a large number of active sites await cleanup. Across both commercial and noncommercial tanks, 35% of incidents are active and await cleanup.

Exhibit 6

Since 1988, North Carolina Has Funded Cleanup of 16,172 Contaminated Incidents in North Carolina

	Active Incidents	Percentage Active	Closed Incidents	Percentage Closed
Commercial	6,502	38%	10,699	62%
Noncommercial	2,108	28%	5,473	72%
Total Incidents	**8,610**		**16,172**	

Source: Program Evaluation Division based on incident management data from DENR's UST Section.

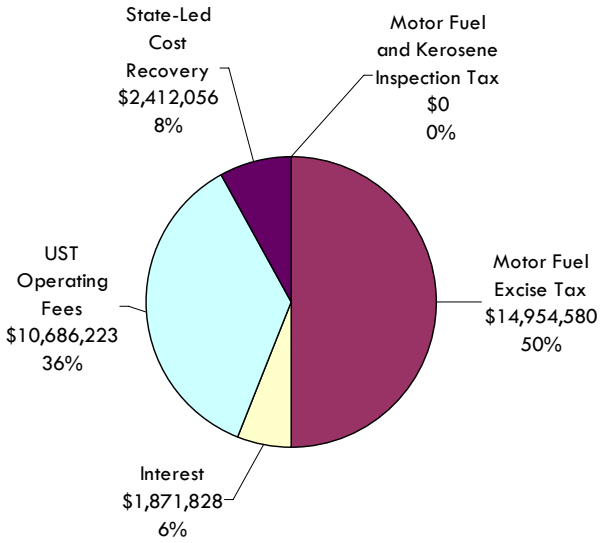
Commercial and Noncommercial Fund revenues come from

- motor fuel excise taxes,
- motor fuel and kerosene inspection taxes,
- annual commercial tank operating fees,
- cost recovery, and
- statutory interest earned by the two funds and the Groundwater Protection Loan Fund.

Exhibit 7 summarizes the sources and distribution of revenue for each fund in Fiscal Year 2008-09. The Commercial Fund's most significant sources of revenue are the motor fuel excise tax and commercial tank operating fees. The most significant sources of revenue for the Noncommercial Fund are the motor fuel excise tax and inspection tax.

Exhibit 7: Sources and Distribution of Revenue for Commercial and Noncommercial Funds, Fiscal Year 2008-09

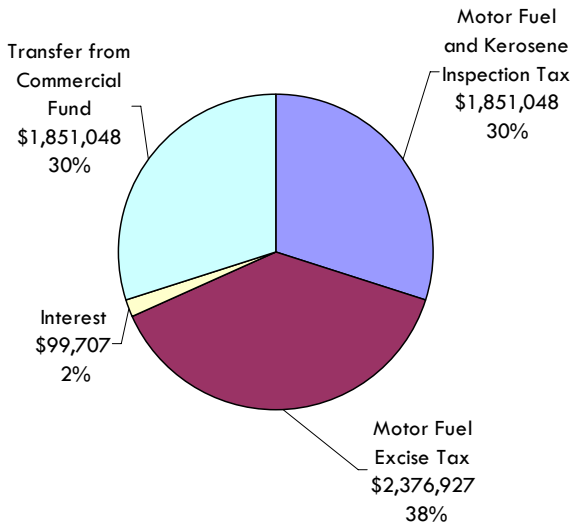
Commercial Fund Revenue ($29.9 Million)



Commercial Fund Sources and Distribution

- **Motor fuel and kerosene inspection tax** – 50% of proceeds from ¼ of one cent per gallon, after the costs of administering motor fuel tax collections and the gasoline inspection program are covered; proceeds from the tax are transferred into the Noncommercial Fund if the balance falls below $5 million
- **Motor fuel excise tax** – 19/32 of ½ cent per gallon
- **UST operating fees** – $420 per tank per year
- **State-led cost recovery** – costs recovered from UST owners and operators for work performed by state contractors
- **Groundwater Protection Loan Fund** – principal and interest from repayments to the fund; no revenue was received from this fund in Fiscal Year 2008-09
- **Interest** – authorized by N.C. Gen. Stat. § 147-69.2 and 149-69.3

Noncommercial Fund Revenue ($6.2 Million)



Noncommercial Fund Sources and Distribution

- **Motor fuel and kerosene inspection tax** – 50% of proceeds from ¼ of one cent per gallon, after the costs of administering motor fuel tax collections and the gasoline inspection program are covered
- **Motor fuel excise tax** – 3/32 of ½ cent per gallon
- **Interest** – authorized by N.C. Gen. Stat. § 147-69.2 and 149-69.3
- **Commercial Fund transfer** – proceeds from the motor fuel and kerosene inspection tax are transferred to the Noncommercial Fund if its balance falls below $5 million

Source: Program Evaluation Division based on North Carolina General Statutes and fiscal data.

Operation of the UST Program has required the attention of the General Assembly nearly every year. Legislation has focused on protecting the solvency of the trust funds in two ways: increasing revenue available for cleanup and controlling how monies were spent. Exhibit 8 provides a timeline of the major legislative measures taken to modify program operations and funding.

Exhibit 8: Timeline of Major Legislative Initiatives for the UST Program and Trust Funds

	Program Operations	Program Funding
1985	Directed DENR to regulate underground storage tanks based on federal law	Established Commercial Fund, which was supported by tank fees—$30 per tank less than or equal to 3,500 gallons and $60 per tank greater than 3,500 gallons—and Noncommercial Fund, which was supported by $4 million Highway Fund appropriation
1986	Required commercial tank owners and operators to register USTs	
1988	Established the Commercial and Noncommercial Trust Funds	Increased tank fees to $45 and $75 based on size; authorized portion of the excise and inspection tax collection to be credited to the Commercial and Noncommercial Funds
1989	Reduced deductibles to $50,000; established 3rd party coverage; limited commercial coverage to sites reported on or after June 30	
1991	Reduced deductibles to $20,000 for sites that met 1998 standards by 1994; raised deductibles to $75,000 for sites that did not meet 1998 standards by 1994	Increased motor fuel excise tax by 1/2 cent per gallon, with a sunset date of 1999; increased tank fees to $100 and $150 per tank based on size
1993	Extended $20,000 deductible for releases discovered after January 1, 1994 and prior to January 1, 1995 to accelerate tank upgrades and closures	Changed distribution of motor fuel excise tax and motor fuel and kerosene inspection tax and eliminated the excise tax sunset; established transfer cap; increased tank fees to $150 and $225 per tank based on size
1995	Directed risk-based cleanup; imposed regulatory enforcement provisions	
1996	Real estate law required real property owners to disclose presence of UST	Increased tank fees to $200 and $300 per tank based on size
1998	Authorized cleanup cost preapproval prior to work direction; required owners to comply with spill, overfill, and corrosion protection	
2003	Required secondary containment of all new and replaced non-tank components; directed DENR to determine the order in which sites are cleaned based on the risk to human health and environment	
2004	Established DENR cannot direct cleanup unless sufficient funds are available to pay cleanup costs within 90 days	Provided additional revenue through a one-year increase to the motor fuel excise tax of 1.1 cent per gallon
2008	Established time limitations associated with reimbursement of cleanup costs; required secondary containment of all UST system components; required owners/operators to demonstrate financial responsibility to receive an operating permit	
2009		Increased tank fees to $420 per tank regardless of size

Source: Program Evaluation Division based on legislation.

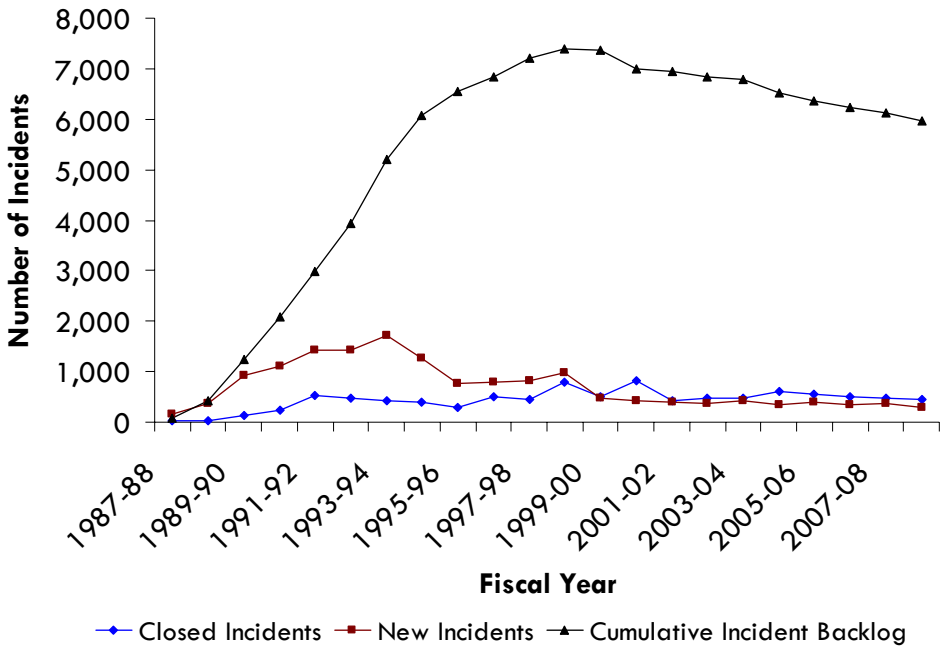
Findings

Finding 1. The estimated cost to meet North Carolina's commercial cleanup demand is $513 million, and projections indicate it will take 25 years to clean up the commercial backlog with current funding.

As of August 2009, North Carolina's commercial cleanup backlog numbered 6,502 commercial underground storage tank (UST) incidents. The accumulation of North Carolina's commercial cleanup backlog occurred during the late 1980s through the 1990s. The backlog occurred because owners were reporting more new incidents than the UST Section was able to clean up each year. The growth in new incidents can be attributed, in part, to more stringent federal equipment standards that took effect in 1998. UST owners discovered spills and leaks as they upgraded their equipment to meet the new standards. As shown in Exhibit 9, the cumulative backlog soared between Fiscal Years 1987-88 through 1998-99.

Exhibit 9

Commercial Tank Incidents: New, Closed, and Cumulative Backlog, Fiscal Years 1987-88 through 2008-09



Source: Program Evaluation Division based on incident data from DENR's UST Section.

Because the discovery of new incidents has slowed, the UST Section has begun to address the accumulated backlog. However, the demand for cleanup has exceeded the revenue going into the Commercial Fund and has limited the pace of cleanup. At present, the Commercial Fund only has enough revenue to clean up incidents identified as high risk; intermediate- and low-risk incidents must await cleanup due to spending limitations.

Program Evaluation Division projections suggest it will take 25 years and cost $513 million to address the commercial backlog. Assuming funding, staffing, rates of site closure, and new site discovery remain constant, it could take until 2034 to clean up the existing backlog. The cost estimate was calculated by multiplying the number of commercial sites waiting for cleanup by the average cleanup cost of $78,921 for closed commercial incidents. Even though the Commercial Fund receives on

average $27 million a year to reimburse commercial claims and pay a portion of UST Section operational costs, there is not enough revenue to clean up the accumulated commercial backlog in a timely fashion.

North Carolina's Commercial Fund has not accumulated sufficient revenue to meet the state's large cleanup demands. The original legislation establishing the Commercial Fund in 1988 identified operating fees as the sole source of revenue, but the rapid increase in incidents during the 1990s forced the General Assembly to increase operating fees and add other revenue sources to improve the fund's solvency. A portion of the motor fuel and kerosene inspection tax was earmarked for the Commercial and Noncommercial Funds in 1988. The tax was increased in 1991 to provide additional Commercial Fund revenue, and the Noncommercial Fund began to receive revenue from the tax in 1993. Commercial tank operating fees also have been increased five times since 1988. The largest change to program funding occurred in 2004 to address a negative Commercial Fund balance of more than $30 million in pending cleanup reimbursements: the General Assembly enacted a temporary motor fuel excise tax increase. The 2004 legislation also protected future trust fund solvency by limiting the amount of cleanup work that could be authorized by the UST Section based upon a 90-day projection of revenue availability.[7]

The Commercial Fund has three major sources of revenue: the annual operating fee, motor fuel excise tax, and motor fuel and kerosene inspection tax. The operating fee offers a predictable source of revenue because all registered commercial USTs in North Carolina must pay the annual $420 fee per tank to access the Commercial Fund and maintain compliance with federal financial responsibility requirements. Although revenue from the motor fuel excise tax has been a steady source of revenue for the Commercial Fund over the years, the proceeds received from the motor fuel and kerosene inspection tax by the trust funds has declined steadily since 2005. Inspection tax proceeds first go to the Department of Revenue to pay for the administration and collection of all motor fuel taxes and to the Department of Agriculture to pay for the motor fuel inspection program. The remainder is split between the two trust funds. Because the cost to administer the departments' programs has increased, the portion of proceeds allocated to the trust funds has diminished.

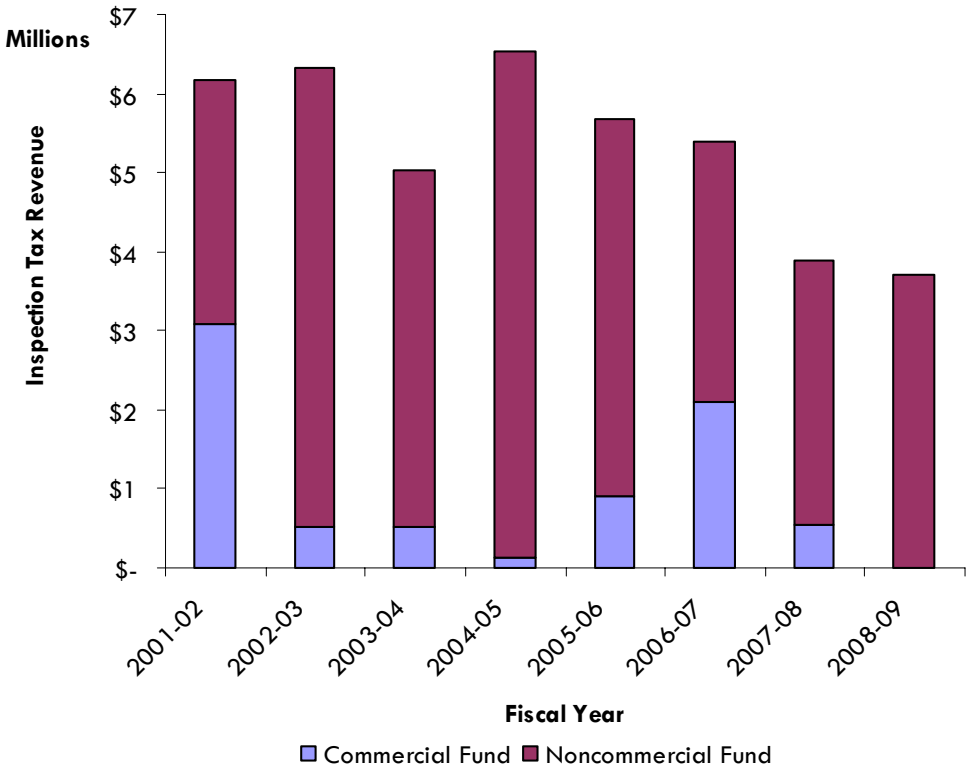
The Commercial Fund is affected by shortfalls in the Noncommercial Fund. Under the current structure, a portion of proceeds from the motor fuel and kerosene inspection tax are distributed equally between the Commercial and Noncommercial Funds. However, if the Noncommercial Fund balance falls below $5 million, then the Commercial Fund's share goes to the Noncommercial Fund until the minimum balance threshold is met. In Fiscal Year 2008-09, the entire proceeds ($3.8 million) from the motor fuel and kerosene inspection tax went to the Noncommercial Fund, half due to the even split specified in the law and the other half as a transfer from the Commercial Fund as required by statute. Exhibit 10 shows the decline in

[7] 2004 NC Sess. Laws, 2004-124, Section 30.10.(d).

these proceeds since Fiscal Year 2001-02 and the effect the transfer clause has had on this revenue source for the Commercial Fund.

Exhibit 10

Proceeds from the Motor Fuel and Kerosene Inspection Tax are Declining



Source: Program Evaluation Division based on fiscal data.

North Carolina's Commercial Fund receives substantially less revenue per tank than other state assurance funds. In 2008, combined revenue sources for North Carolina's Commercial Fund provided $955 per commercial tank, less than a third of the national average of $3,033 per tank. Among southeastern states with a comparable number of tanks per 1000 population, both Mississippi ($1,204 per tank) and Louisiana's ($1,789 per tank) state assurance funds generate more revenue than North Carolina's assurance fund.

Federal entities have expressed concern about the solvency of North Carolina's Commercial Fund. In 2004, the Environmental Protection Agency issued a letter to the North Carolina UST Section: "many sites required to be addressed under state and federal UST rules remain unattended as a result of inadequacies in the State Fund." Similar concerns were expressed in a 2007 United States Government Accountability Office report on leaking USTs, citing insufficient Commercial Fund revenues to address all of the state's high-risk sites.[8]

[8] United States Government Accountability Office. (2007, February). *Leaking Underground Storage Tanks: EPA Should Take Steps to Better Ensure the Effective Use of Public Funding for Cleanups, GAO-07-152.*

Statutes that restrain the pace of cleanup increase the state's financial liability. North Carolina Session Law 2004-124, Section 30.10. (d) limits the number of cleanups that can be directed, based on a 90-day projection of revenue availability in the Commercial Fund. The legislation was intended to ensure the UST Section could reimburse claims while cleanup was underway, but this restriction exacerbates the cleanup backlog. The longer incidents go without cleanup, the greater the threat posed to the environment and public health, and the greater the potential cleanup cost.

Delaying cleanup also raises the state's financial liability because of an increased likelihood that the owner responsible for the incident cannot pay. Without an owner to contribute deductibles, the state assumes responsibility for directing and paying the entire cost of cleanup. Of 217 contaminated incidents listed for directed cleanup in April 2009, 29 (13.3%) did not have a responsible party.[9] Applying this percentage of lost responsible parties to the remaining cleanup backlog would result in an estimated $15 million in lost deductibles.[10]

Finding 2. Commercial tank owners' continued reliance on the Commercial Fund increases North Carolina's liability for future cleanup costs.

In 1988, the North Carolina General Assembly established the Commercial Fund as a federally approved state assurance fund to help North Carolina commercial underground storage tank (UST) owners meet federal financial responsibility requirements. The Commercial Fund reimburses owners for the cost of cleanup and third-party damages associated with UST incidents by covering up to $1.5 million after deductibles, with a 20% co-payment for costs greater than $1 million. Access to the Commercial Fund requires UST owners to meet state financial responsibility requirements and operational compliance standards.

Since 1989, the Commercial Fund has already paid $441.2 million in cleanup costs. The estimated cost for cleaning the remaining commercial backlog as of August 2009 suggests it will take at least $513 million. Although new commercial incidents are declining, the 280 new incidents reported in Fiscal Year 2008-09 added an estimated $22 million to the cost to clean up the backlog. Over the next 10 years the Commercial Fund's liability is projected to increase by $186 million, even assuming the number of new commercial incidents will continue to decline.

Federal regulations allow seven different financial assurance mechanisms for commercial tank owners to meet federal financial responsibility requirements. Exhibit 2 on page 5 of this report provides a description of these mechanisms. North Carolina chose to establish a state

[9] This figure contains a number of incidents that lost the responsible party due to the time spent awaiting directed cleanup and incidents that were without a responsible party at the time the incident was discovered. The number of incidents without a responsible party at the time the incident was discovered could not be determined due to insufficient information in UST databases.

[10] $15 million in additional liability is a conservative estimate because it is based on a $20,000 deductible.

assurance fund to assist UST owners in meeting these requirements. Fourteen of the 50 states do not have an assurance fund.[11] One of these, Washington, took an innovative approach to assisting UST owners in meeting federal financial responsibility requirements. Because of Washington's constitutional prohibition on programs benefiting private business interests, Washington designed a state pollution liability insurance program that would "sell" financial assurance rather than collect taxes and "give" assurance. The Pollution Liability Insurance Agency administers the reinsurance program for tank owners that cannot afford a private insurance policy that will meet federal financial responsibility requirements. The Pollution Liability Insurance Agency contracts with several private insurance companies to provide insurance. The insurance companies are required to cover the first $75,000 in cleanup liabilities minus a deductible. The Pollution Liability Insurance Agency then provides reinsurance for cleanup costs that exceed $75,000. Providing reinsurance allows the private insurance companies under contract with the Pollution Liability Insurance Agency to charge premiums that cost $1,100 to $1,400 per facility (usually 2 to 3 tanks per facility) or $500 for a single tank.

Seven states transitioned from a state assurance fund to requiring owners to obtain another form of financial assurance.[12] Before Arizona eliminated its state assurance fund in 2006, the fund covered cleanups up to $500,000 with a 10% co-payment. Because Arizona had not covered third-party claims through its state assurance fund, owners already had to use a mix of financial assurance mechanisms to meet federal requirements. Most chose private insurance. Arizona was able to transition away from their state assurance fund over a two-year period, after which officials reported no change in the number of tanks operating in the state.

Iowa opted to stop covering new incidents with their state assurance fund in 1990. Many large UST owners turned to self insurance or the private insurance market. However, due to a limited availability of private insurance in Iowa at the time, a state-led insurance program for smaller owners was created. All owners in the insurance program paid a premium for five years, based on an actuarial model. The state-led insurance program became a not-for-profit insurance company in 2000 and converted into a for-profit company in 2005. Currently, the insurance company completes annual inspections, in addition to state inspections. Premiums are risk-based and consider system attributes such as leak detection methods, equipment, and inspection results. A three-tank station pays approximately $1,500 to $1,800 annually for private insurance in Iowa.

When state assurance funds are not available, private insurance policies are the most commonly used method for meeting federal financial responsibility requirements. Private insurance companies offer risk-based policies designed specifically for UST systems, often referred to

[11] Of these, Washington, Hawaii, Alaska, West Virginia, Maryland, Delaware, and Oregon never created state assurance fund.

[12] After a transition period, Arizona, Florida, Iowa, Michigan, New Jersey, Texas, and Wisconsin eliminated the use of state assurance funds for new incidents.

as pollution liability insurance policies. UST owners can purchase coverage for their systems for an annual premium, at a specified deductible level. Like other forms of insurance, the premium price is set based on the size of the deductible and attributes of the equipment needing coverage. In general, the higher the risk assumed by the insurance company or group, the higher the premium.

Research published in 2009 by the National Bureau of Economic Research suggests a relationship between risk-based pricing and incident reduction. The study examined Michigan's experience with transitioning from a state assurance fund to private insurance. When Michigan eliminated their state assurance fund and switched to a private insurance market, UST incidents declined by more than 20%. The study suggested incidents likely declined because private insurance created incentives for upgraded, modernized UST system equipment and encouraged owners to adopt operational practices that reduce the risk of an incident occurring. [13]

Financial responsibility requirements for access to North Carolina's Commercial Fund are not based on the risk of an incident. Gaining access to the Commercial Fund requires UST owners to meet federal and state compliance standards, pay the annual tank operating fee of $420 per tank, and demonstrate that state deductibles for cleanup and third-party damages can be met. State deductibles for UST systems meeting the 1998 standards for corrosion protection, spill control, and overfill prevention are $20,000 for cleanup and $100,000 for third-party damages.[14] However, the annual operating fee and deductible levels are not risk-based; they do not take into consideration UST system attributes and operational practices that affect the likelihood of an incident (e.g., proximity to ground and surface water sources, system age and design, or history of operational violation and previous incidents). Risk-based systems effectively transfer financial responsibility for spill and leak prevention directly to UST owners and encourage proper equipment maintenance and/or modernization.

In 2005, the Department of Environment and Natural Resources (DENR) proposed to the Environmental Review Commission[15] that North Carolina consider alternatives to the Commercial Fund for meeting federal financial responsibility. DENR's report described the experiences of other states that had transitioned from state assurance funds to private insurance and recommended North Carolina consider a private insurance model for future incidents. Legislation authorizing a transition to private insurance or other assurance mechanisms to meet federal financial responsibility requirements was introduced in 2006 but was not enacted by the General Assembly.

[13] National Bureau of Economic Research. (June 2009). *Risk-Based Pricing and Risk-Reducing Effort: Does the Private Insurance Market Reduce Environmental Accidents?* Retrieved from http://www.nber.org/papers/w15100.

[14] Commercial UST systems that do not meet 1998 standards pay a $75,000 dollar deductible.

[15] The Environmental Review Commission is a standing committee in the North Carolina General Assembly designated to evaluate actions of all boards, commissions, departments, and other agencies of the state and local governments related to the environment or protection of the environment.

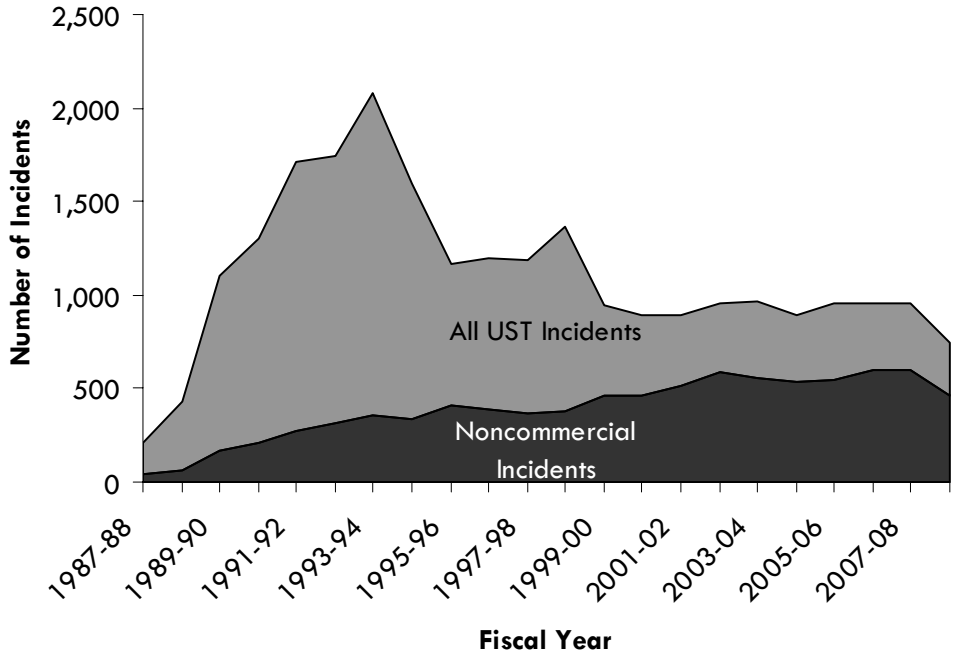
Finding 3. The solvency of the Noncommercial Fund is in jeopardy because North Carolina pays all cleanup costs for a growing number of sites.

In 1988, the North Carolina General Assembly created the Noncommercial Fund to pay for the cleanup of environmental damage caused by spills and leaks from noncommercial USTs. Tank owners are responsible for the initial cost of tank removal, but all cleanup costs are eligible for reimbursement from the Noncommercial Fund. Unlike commercial UST owners, noncommercial owners are not required to pay cleanup deductibles or annual operating fees to receive assistance for incident cleanup.

The number of new noncommercial incidents is growing and has affected the solvency of the Noncommercial Fund. The number of new noncommercial incidents per year has grown from 41 in Fiscal Year 1988-89 to 465 in Fiscal Year 2008-09—a ten-fold increase (see Exhibit 11).

Exhibit 11

The Number of Noncommercial Incidents is a Growing Proportion of All UST Incidents



Source: Program Evaluation Division based on incident management data from DENR's UST Section.

As of August 2009 the Noncommercial Fund had a backlog of 2,108 incidents awaiting cleanup. Based on the cost of previous cleanups, the Program Evaluation Division estimates the cost of eliminating the current backlog is $36 million. With annual revenues averaging $6 million dollars, it would take six years to pay for cleaning up the backlog. The number of new noncommercial incidents, coupled with the lack of owner financial responsibility for cleanup costs, threatens the solvency of the Noncommercial Fund.

The total liability of the Noncommercial Fund is unknown because federal law does not require the regulation of noncommercial USTs. The UST Section is not required to monitor noncommercial tanks through registration or inspections. Therefore, every noncommercial tank is a

potential liability for the Noncommercial Fund, and the true number of noncommercial tanks in North Carolina is unknown. Without specific information about these tanks, the UST Section cannot effectively determine the resources needed to address the liability posed by noncommercial tanks.

Among a sample of other states with similar financial assistance programs, none provided coverage as generous as North Carolina. The Program Evaluation Division reviewed UST programs in 35 other states. Of these, eight provided some financial assistance for noncommercial cleanup costs. Six of the eight—Maryland, New Hampshire, Pennsylvania, Vermont, Virginia, and Wisconsin—operated financial assistance programs similar to North Carolina's Noncommercial Fund, but unlike North Carolina, these states required tank owners to pay a portion of cleanup costs (see Exhibit 12). As shown, four of these states—Maryland, New Hampshire, Pennsylvania, and Wisconsin—covered significantly less than North Carolina's $1 million limit.

Exhibit 12

Other States Require Noncommercial Tank Owners to Pay a Deductible

State	Deductible	Coverage Limit
North Carolina	**$0**	**$1,000,000**
Maryland	$500	$20,000
New Hampshire	$100	$500,000
Pennsylvania	$1,000	$5,000
Vermont	$250	$1,000,000
Virginia	$500	$1,000,000
Wisconsin	25%	$7,500

Source: Program Evaluation Division based on data from other states' UST programs.

The remaining two states identified as providing financial assistance for noncommercial tank owners, Idaho and New Jersey, are fundamentally different. Idaho has an insurance program for residential and farm USTs. Tank owners pay a $25 annual insurance premium with a coverage limit of $100,000 and a $2,000 deductible per incident. New Jersey offers a grant and low-interest loan program for owners of residential heating oil tanks. To receive assistance, a tank owner must pay a $250 application fee; have a net income less than $250,000, excluding an employer-sponsored pension; and a net worth less than $500,000, excluding the value of the applicant's primary residence. An applicant's financial situation determines whether a grant, loan, or a combination of the two is offered.

Finding 4. Operational limitations hinder the Underground Storage Tank Section's ability to prevent incidents and clean up incidents.

The Underground Storage Tank (UST) Section's effectiveness is hampered by issues with data and information management and a lack of statutory

authority to mandate owner-operator training.

Reliance on a non-integrated information system hinders UST Section operations. Data and information management play an integral role in UST operations. Most of the data for commercial USTs are used to support permitting, inspections, cleanup, and claims processing activities. However, the Program Evaluation Division found these information systems were antiquated and heavily reliant on original paperwork. More than 17 different databases support UST operations, with many created by individual users for a specific purpose. Over time, the UST Section moved these databases to their network to enhance response time, security, and reporting capabilities. Nonetheless, the UST Section continues to rely on a non-integrated information management system to conduct business and meet state and federal reporting requirements, resulting in numerous inefficiencies for the section:

- Daily activities in the UST Section are heavily reliant on original paperwork.
- Regional staff must stop working on other activities to provide necessary paperwork when central office administrators need assistance closing information gaps.
- UST Section staff enters the same information into more than one database, duplicating effort and jeopardizing data integrity.
- Each branch manages its own databases, and information supporting activities across branches is not readily available.
- UST Section management cannot access information easily in order to respond quickly to questions, create timely required reports, and recognize programmatic trends rapidly.

Efforts to develop an integrated information system have been stymied by limited staff resources. The Department of Environment and Natural Resources's (DENR's) Information Technology Services Division is working with the UST Section to develop the Tank Information Management System, a standard application development framework to manage information on activities for the UST Section's Permitting and Inspections Branch. Once permitting and inspection modules are complete, regional staff will be able to enter information into a web-based, centralized database. According to DENR, development of the Tank Information Management System has been challenging due to staffing and budget constraints. Staff turnover has delayed the project; the on-staff application developer left DENR in 2004 for the private sector. DENR has used contractors since then to continue the work. In addition, the UST Section's desire for a simultaneous rather than staged implementation of the system has escalated the cost beyond available funding. Currently, the DENR's Information Technology Services Division and the UST Section are drafting a request for proposals for a vendor to complete the four modules in the system, which are in various stages of progress.

The UST Section is using internal information technology resources to create a web-based interface to collect incident data for above-ground and underground storage tanks to support the activities of the UST Section's Corrective Action Branch; this system will eventually interface with the Tank

Information Management System. However, the UST Section has only one staff member with expertise in application development, and he has additional duties within the section that prevent him from concentrating on application development responsibilities. DENR has started to transition some support activities to another staff member with full transfer of responsibilities planned once the department moves into the Green Square Complex.

Federal regulation requires the UST Section to conduct general inspections of commercial tanks once every three years and to conduct education and training for UST owners and operators. Prior to the 2005 passage of the Energy Policy Act, North Carolina commercial USTs were inspected once every five to seven years. Federal regulations now require commercial inspections once every three years. In January 2009, the annual commercial operating fee was increased to $420 per tank to hire additional staff to conduct more frequent commercial inspections. The overall effect of increased inspection frequency on prevention and compliance cannot be determined due to lack of sufficient data.

The UST Section does not have the authority to require tank owners to participate in education and training. Federal regulation requires states to provide education and training because the United States Environmental Protection Agency considers education and training of commercial tank owners and operators an important component of spill and leak prevention measures. In North Carolina, education and training is conducted through general inspections, voluntary owner-operator training sessions, and requests from individual tank owners. Although the UST Section has developed a plan and identified existing staff resources for enhanced education and training to meet federal requirements, UST Section staff stated the plan cannot succeed without authority to require commercial tank owners and operators to receive training.

The Program Evaluation Division examined states most like North Carolina in terms of the number of tanks per 1,000 population. For example, Mississippi and Louisiana have tied education and training opportunities to inspection compliance. Mississippi allows first-time offenders to attend a training class in lieu of paying a fine for an inspection violation. In Louisiana, owners who have been issued a noncompliance order receive a reduced penalty for attending an expedited penalty seminar. Louisiana also has a small business assistance program, where program staff inspects a facility at the request of the owner but do not issue a fine if a violation is found. Starting in 2010, Louisiana will require owners and operators to attend mandatory training paid for by its state assurance fund.

Recommendations

The following recommendations suggest how the North Carolina Underground Storage Tank Program can focus on cleaning up the backlog of past incidents and change the future of the program by introducing a risk-based system of financial responsibility for commercial tank owners and requiring noncommercial tank owners to pay a share of cleanup costs.

Recommendation 1. The North Carolina General Assembly should increase the motor fuel and kerosene inspection tax by 3/16 of one cent and reallocate revenue between the Commercial and Noncommercial Funds.

Accelerating the pace of corrective action and eliminating the cleanup backlogs for commercial and noncommercial incidents in a timely fashion requires more revenue for both trust funds. Based on existing data, the Program Evaluation Division projected the duration and cost of eliminating the commercial and noncommercial backlog. With the current revenues accruing to the Commercial Fund, cleaning up North Carolina's commercial backlog of 6,502 sites will cost at least $513 million and will take 25 years. With current annual revenues of $6 million accruing to the Noncommercial Fund, the noncommercial backlog of 2,108 sites is estimated to cost $36 million to clean up. The growing number of noncommercial incidents causes shortfalls in the Noncommercial Fund and diverts money from the Commercial Fund to pay for noncommercial incidents.

The General Assembly should increase the motor fuel and kerosene inspection tax by 3/16 of one cent and earmark the new revenue for the two trust funds. Exhibit 13 compares the affect of increasing the inspection tax to 7/16 of one cent from the current inspection tax of ¼ of one cent.

Exhibit 13

Increasing the Inspection Tax Would Provide $14.7 Million for the Two Trust Funds

Motor Fuel and Kerosene Inspection Tax	Current	Proposed
Tax Rate	1/4 of one cent	7/16 of one cent
Total Annual Revenue from Inspection Tax	$14,500,000	$25,375,000
Less Allocations to Departments of Agriculture and Revenue	($10,683,547)	($10,683,547)
Net Allocation to Commercial and Noncommercial Funds	$3,816,453	$14,691,453

Source: Program Evaluation Division based on budget information from DENR and the Department of Transportation.

The two trust funds would receive $14.7 million annually as a result of this increase to the motor fuel and kerosene inspection tax, providing an additional $10.9 million each year.

According to Underground Storage Tank (UST) Section management, the proposed increase in revenue would allow the UST Section to increase disbursements for cleanup costs by 50% with existing staff resources and cover additional costs resulting from an update to the reasonable rates document,[16] which is currently underway. Increasing disbursements that utilize existing staff resources ensures that all of the inspection tax

[16] The reasonable rates document establishes maximum claim amounts for cleanup tasks that can be submitted to the UST Section for cleanup reimbursement.

increase could be used to reduce the commercial and noncommercial backlogs more quickly.

The General Assembly should change the division of revenue from the inspection tax from equal distribution between the two trust funds to two-thirds distribution to the Commercial Fund and one-third distribution to the Noncommercial Fund (see Exhibit 14).

Exhibit 14

Proposed Revenue Allocation from the Inspection Tax

Motor Fuel and Kerosene Inspection Tax Allocation	Commercial Fund	Noncommercial Fund	Totals
Current Allocation	1/2	1/2	100%
Current Revenue	$1,908,227	$1,908,227	$3,816,453
Proposed Allocation	2/3	1/3	100%
Proposed Revenue	$9,794,302	$4,897,151	$14,691,453
Proposed Revenue Increase	$7,886,076	$2,988,925	$10,875,000

Source: Program Evaluation Division based on budget information from DENR and the Department of Transportation.

By restructuring inspection tax proceeds, the Commercial Fund would receive $9.8 million (an increase of $7.9 million) and the Noncommercial Fund would receive $4.9 million (an increase of $3 million). Because the $3 million increase in inspection tax revenue to the Noncommercial Fund will ensure it has adequate resources without the transfer of proceeds from the Commercial Fund, the General Assembly also should eliminate the required transfer of inspection tax proceeds from the Commercial Fund to the Noncommercial Fund.

Program Evaluation Division analysis suggests increasing the inspection tax and restructuring the distribution of revenue to the trust funds could reduce the projection of 25 years to eliminate the commercial cleanup backlog to 14 years. Because the United States Environmental Protection Agency uses the size of the cleanup backlog to judge the performance of the North Carolina UST Program, accelerating corrective action also will improve the Environmental Protection Agency's assessment of North Carolina's performance.

Recommendation 2. The North Carolina General Assembly should require tank owners to obtain other financial assurance mechanisms to meet federal financial responsibility requirements.

In order to address the cleanup backlog of commercial incidents, the Commercial Fund must focus its resources on cleaning up past incidents. The Program Evaluation Division estimates North Carolina's current liability for cleaning up the backlog of commercial incidents will cost $513 million, and projects new incidents will increase North Carolina's commercial cleanup liability by $186 million over the next 10 years. Eliminating reliance on the Commercial Fund to cover federal financial responsibility for commercial tank owners will significantly limit North Carolina's liability for cleaning up future incidents.

The best way to reduce the state's liability for cleaning up future incidents is to require commercial tank owners to obtain other financial assurance mechanisms to meet federal financial responsibility requirements. Fourteen states require commercial tank owners to rely on other financial assurance mechanisms to meet federal requirements, and most commercial tank owners in these states choose private insurance. Private insurance requires commercial tank owners to take full responsibility for meeting federal financial assurance requirements and pay for risk-based coverage.

Reducing the Commercial Fund's responsibility for future incidents will require a transition period to allow a private insurance market to develop and to give tank owners time to get coverage. Other states have ended their underground storage tank (UST) assurance fund programs by requiring their commercial tank owners to obtain other financial assurance mechanisms to cover cleanup of future petroleum leaks. The General Assembly should develop a progressive schedule of coverage and operating fee reduction over a five-year period to transition tank owners away from reliance on the Commercial Fund to total reliance on private insurance or other financial assurance mechanisms. Exhibit 15 summarizes the recommended financial assurance and operating fee change over the five-year transition period.

Exhibit 15

Proposed Transition Schedule for Private Insurance of Commercial Tanks

Transition Period	Trust Fund Coverage	Private Insurance Coverage	Operating Fee
Year 1	$1,000,000	No coverage	$420
Year 2	$ 800,000	$ 200,000	$335
Year 3	$ 600,000	$ 400,000	$270
Year 4	$ 400,000	$ 600,000	$215
Year 5	$ 200,000	$ 800,000	$175
Year 6	No coverage	$1,000,000	$175

Source: Program Evaluation Division based on data from other state's and previously introduced legislation in North Carolina.

The recommended transition schedule reduces coverage from the Commercial Fund by $200,000 per year without changing current deductibles ($20,000 per incident for cleanup and $100,000 for third-party liability claims). Tank operating fees would decrease 20% per year and stabilize at $175. The estimated annual revenue from operating fees will be reduced from $10.7 million to $4.5 million at the end of the transition period. The lower operating fee will provide enough revenue to cover the Commercial Fund's share of the operating costs for the UST Section. This reduction in revenue will be offset by savings from eliminating the vast majority of North Carolina's future cleanup liability,[17] as proposed in Recommendation 2.

[17] North Carolina's UST cleanup liability can not be completely eliminated because funding will be needed to cleanup incidents from orphan tanks.

For incidents that occur during the transition period, the owner's chosen financial assurance mechanism should cover the cost of cleanup first. This requirement would maintain consistency with the concept established in N.C. Gen. Stat. § 143-215.94B(d)(6). Any cleanup costs that exceed the level of coverage provided by the owner's financial assurance mechanism will be covered by the Commercial Fund.

New tanks installed after the transition period begins should be required to use private insurance or other financial assurance mechanisms to meet federal financial responsibility requirements. Incidents involving new tanks would not be eligible for coverage from the Commercial Fund.

The General Assembly should authorize the UST Section to oversee and monitor the cleanup of incidents covered by private insurance companies. This oversight ensures that tank owners continue to meet cleanup standards currently in place.

A five-year transition period should be sufficient to allow a private insurance market to develop in North Carolina and allow tank owners to gradually reduce their reliance on the Commercial Fund. Program Evaluation Division analysis of experiences in other states suggests commercial tank owners will be able to purchase private insurance to meet federal financial responsibility requirements. The private insurance cost per tank will vary depending on tank characteristics and the size of the deductible, but information provided by several large insurance companies that cover USTs suggests the annual cost would be about $500 per tank.

Transitioning to private insurance to pay future cleanup costs will free the Commercial Fund to cover and eliminate the backlog. After the five-year transition period ends, North Carolina will no longer pay for new incidents covered by private insurance. The UST Program will continue to need funding for cleanup of incidents with no identified responsible party, but the level of funding will be significantly lower once the commercial backlog is eliminated.

Recommendations 1 and 2 address two different problems. The first recommendation provides an additional $10.9 million in revenue to eliminate the cleanup backlog more quickly. The second recommendation eliminates the vast majority of the state's future cleanup liability and reduces revenue from operating fees by $6.2 million. Adopting both recommendations would minimize future UST cleanup liabilities and provide an additional $4.7 million that could be dedicated to eliminating the backlog.

Recommendation 3. The North Carolina General Assembly should require noncommercial tank owners to share financial responsibility by paying 20% of cleanup costs up to a maximum of $5,000 per incident.

Unlike other states that provide assistance to noncommercial tank owners, North Carolina's noncommercial tank owners have no financial responsibility for incident cleanup costs. The Noncommercial Fund is in danger of insolvency because it has a backlog of 2,108 incidents that will cost an estimated $36 million to clean up and the number of noncommercial

incidents is increasing. Requiring noncommercial tank owners to pay 20% of cleanup costs up to a maximum of $5,000 per incident will allow the Noncommercial Fund to cover the costs of more incidents. If this requirement had been in place from the program's inception, cleanup costs paid from the Noncommercial Fund would have been reduced by an estimated $9 million.

A Program Evaluation Division analysis of past noncommercial incidents demonstrates how this proposal could affect noncommercial tank owners. Three quarters of the noncommercial cleanups cost $18,000 or less per incident. A 20% co-payment would require these tank owners to pay less than $3,600 and 14.4% of owners would pay the maximum of $5,000 per incident. The $5,000 cap will protect noncommercial tank owners who have incidents with cleanup costs exceeding $25,000 because the Noncommercial Fund will pay all cleanup costs once the $5,000 cap is reached.

The Program Evaluation Division interviewed six noncommercial owners who had been reimbursed for cleanup activities. They expressed gratitude that the Noncommercial Fund was available to pay for cleanup costs, but most (four of six) said they would have been willing to pay a portion of the costs. Requiring noncommercial tank owners to pay a portion of cleanup costs and increasing revenue for the Noncommercial Fund will reduce the likelihood of balance shortfalls in the future.

Recommendation 4. The North Carolina General Assembly should provide increased regulatory authority and policy direction to the Underground Storage Tank Section to improve program operations.

The General Assembly should take the following actions to help the Underground Storage Tank (UST) Section improve operations in three domains.

- **Information management improvements**. Significant work is needed to prepare existing databases and documentation for migration into the integrated data management systems currently under development. The UST Section does not have staff that can complete the necessary tasks in a timely manner. The General Assembly should authorize the UST Section to expend funds from the Commercial Fund for a time-limited position to support the completion of the integrated data management systems.
- **Education and training.** The UST Section provides education and training for commercial tank owners to meet federal requirements, but they cannot require a tank owner to receive training even when compliance issues indicate the tank owner would benefit from training. The General Assembly should enact legislation authorizing the Department of Environment and Natural Resources to require commercial tank owners or operators to receive appropriate education and training in order to receive an operating permit. The education training curriculum should be developed by the UST Section based on federal and state implementation standards.

- **Inspection frequency and tracking compliance.** The General Assembly should require the UST Section to track the association of inspection frequency and incident prevention and compliance as a part of the annual report required by N.C. Gen. Stat. § 143-215.94M. Because this recommendation would require additional information for the annual report, the General Assembly should consider changing the annual report due date from September 1 to October 1.

Appendices

Appendix A: Graphical Overview of Underground Storage Tank System Equipment

Appendix B: Overview of the Underground Storage Tank Section's Operations

Appendix C: Description of the Underground Storage Tank Section's Three Branches

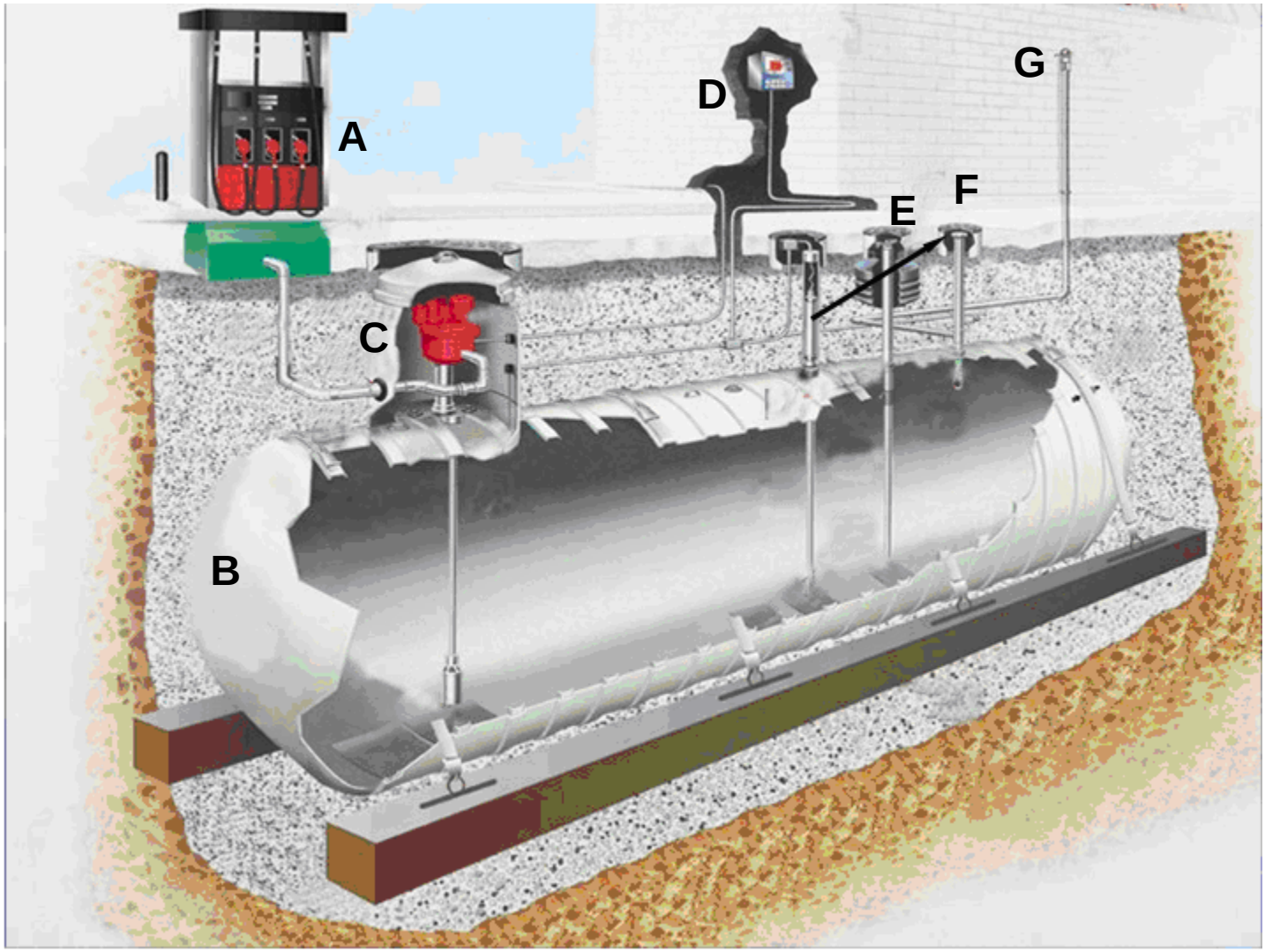
Agency Response

A draft of our report was submitted to the Department of Environment and Natural Resources, Division of Waste Management, Underground Storage Tank Section. Their response is provided following the appendices.

PED Contact and Staff Acknowledgments

For more information on this report, please contact the lead evaluator, Sean Hamel, at sean.hamel@ncleg.net. Staff members who made key contributions to this report include Michelle Beck, Catherine Moga Bryant, Carol Shaw, and Pamela L. Taylor. John W. Turcotte is the director of the Program Evaluation Division.

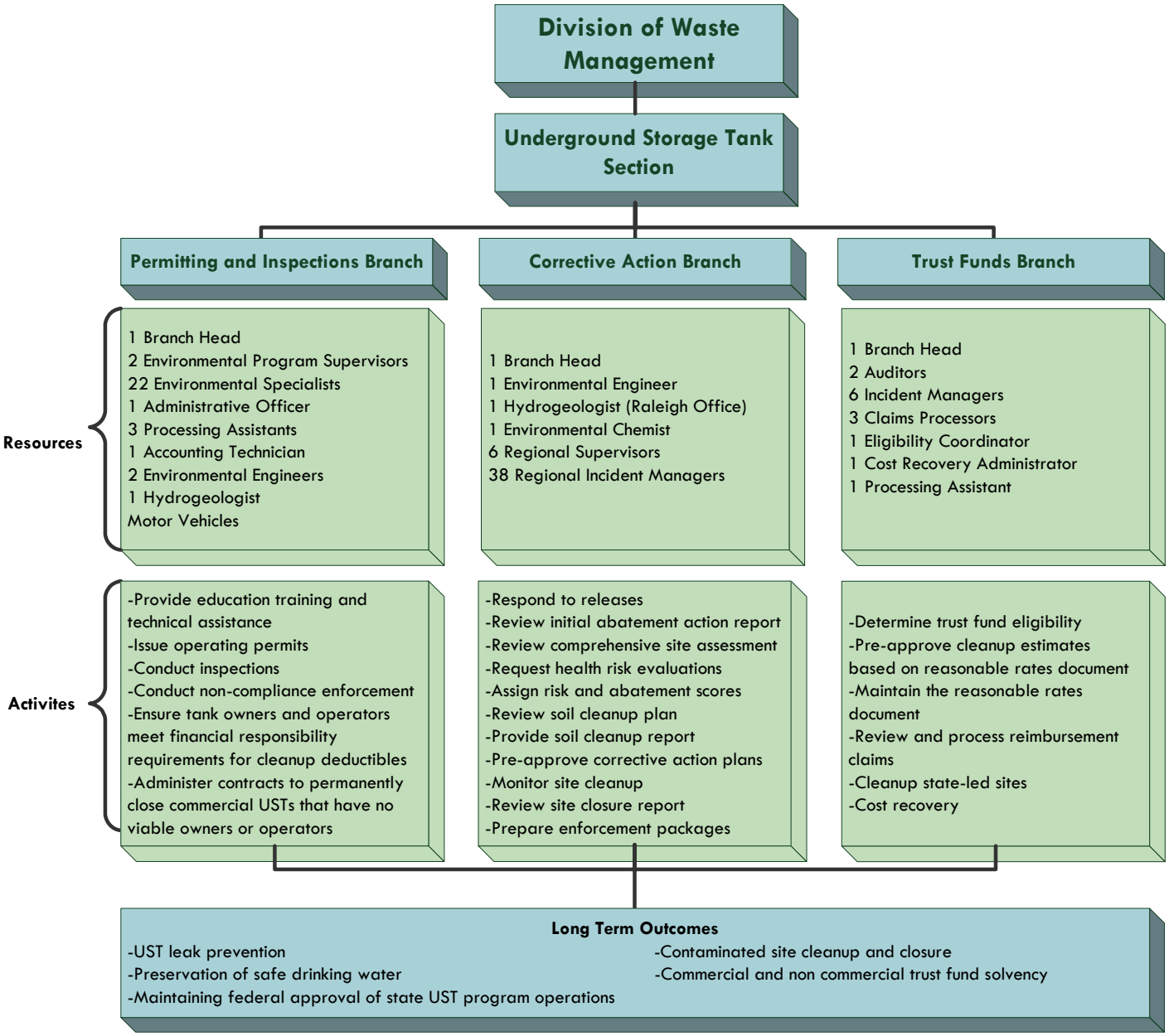
Appendix A: Graphical Overview of Underground Storage Tank System Equipment



A	Dispensers
B	Tank
C	Pump
D	Automatic Tank Gauge
E	Fill Port
F	Vapor Recovery Port
G	Automatic Shut Off

Source: Graphic provided by the Department of Environment and Natural Resources, Underground Storage Tank Section.

Appendix B: Overview of the Underground Storage Tank Section's Operations



Appendix C: Description of the Underground Storage Tank Section's Three Branches

Permitting and Inspections Branch

The permitting component of the Permitting and Inspections Branch operates out of the central office in Raleigh. Commercial tank owners submit tank information on an annual basis along with an annual operating fee, which allows the section to track changes in equipment and ownership. Inspections are home based and coordinated by the Underground Storage Tank (UST) central office operated by the Department of Environment and Natural Resources (DENR).[1] Typically, inspectors schedule an inspection appointment with the commercial UST owner two weeks in advance. Upon arrival, the inspector conducts a physical inspection of the system equipment and reviews paperwork from scheduled leak-detection testing. In the event of operational violations, the UST inspector will review violations with the owner and provide instructions on how to correct identified infractions. The branch also is responsible for ensuring tank owners meet financial responsibility requirements for cleanup deductibles and administering contracts to permanently close USTs that have no viable owners or operators.

Corrective Action Branch

The Corrective Action Branch operates out of the regional offices to respond to incidents where spills or leaks have occurred or are suspected to have occurred. Once incident managers have confirmed an incident occurrence, the corrective action process begins. Incident managers receive a limited site assessment from the environmental consultant. The limited site assessment is used to assist incident managers in determining a risk ranking and abatement score. The risk ranking and abatement score is used to establish a risk score for each incident based on site-specific environmental and human health factors. One major criterion of the risk ranking and abatement score is proximity of the site to a public water supply. North Carolina law specifies sites with the highest risk ranking and abatement score must be addressed first. Giving cleanup priority to the highest risk sites ensures that sites posing the greatest threat to human health and the environment are cleaned up first. Based on criteria for the risk-ranking process, sites with the greatest potential to harm public water supplies receive priority attention. Environmental consultants develop a corrective action plan based on a comprehensive site assessment. The corrective action plan is submitted to the appropriate incident manager for review and cleanup task preauthorization. Pre-approval of corrective action plans ensures cost-effective cleanups for the state.

Trust Funds Branch

The Trust Funds Branch manages the trust funds out of the central office in Raleigh. Branch staff reviews each claim against the Permitting and Inspections Branch's eligibility database to ensure that sites are eligible for reimbursement. Claims are then cross-referenced against pre-approved corrective action plans to ensure that owners only receive reimbursement for authorized cleanup tasks. The UST Section has established reasonable rates for activities performed during cleanup; the Trust Funds Branch staff adjusts each claim based on these rates. The branch also is responsible for directing corrective action work for orphan sites. Between Fiscal Years 1988-89 and 2008-09, the money dispersed from the Commercial and Noncommercial Fund exceeded $543.7 million. Exhibit

[1] The seven regional offices are in Asheville, Fayetteville, Mooresville, Raleigh, Washington, Wilmington, and Winston-Salem.

North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue, Governor

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October 20, 2009

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Dear Mr. Turcotte:

On behalf of Secretary Freeman, I am commenting on the October 2009 Program Evaluation Division's findings and recommendations relating to the operation, funding and outcomes of the Underground Storage Tank (UST) program. Clearly a great deal of time and effort has been given by your staff in the evaluation of the Division of Waste Management's UST program and in formulating the findings and recommendations of the report. I appreciate the thoroughness and detail of their work.

As noted in the report, the General Assembly has addressed the UST program almost every year since the program's inception in 1985. A working group of interested parties, led by General Assembly staff, has met periodically throughout the program's history to develop consensus on legislative changes to make the program more effective. The Department has been active in participating in this working group. The working group's efforts have often focused on the ability of the State's commercial and noncommercial UST trust funds to: 1. meet federal financial assurance requirements for regulated petroleum underground storage tanks; and 2. assist owners of unregulated petroleum underground storage tanks (primarily home heating oil tanks) with the costs of cleanups.

The report reinforces the concern, expressed by the Department and other working group members in recent years, that the UST trust funds have never been adequately capitalized to meet demand. As the primary source of funding for UST cleanups, the trust funds do not receive sufficient revenue to provide a timely response to petroleum releases. As a result, the state has a backlog of contaminated sites that have not been addressed. This gap between trust fund revenue and demand for cleanup funds has led DENR to consider the feasibility of alternatives to use of a state trust fund to meet federal financial assurance requirements– such as transition to private environmental insurance for regulated USTs. DENR has also explored other potential changes in management of the trust funds that would increase the UST owner/operator's contribution to

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cleanup cost; create additional incentives to avoid petroleum releases; and better control cleanup costs.

DENR also agrees that there would be benefit to the state in creating additional incentives for avoidance of petroleum releases by linking the cost of financial assurance to the risk of a petroleum release. The report proposes a five-year transition period to such an approach. Some transition will be vital to the success of moving from the present process to a more risk-based financial assurance program. It is also important to note that the proposed changes will place added demands for review, monitoring, and enforcement on the UST regulatory program. DENR cannot say, at this point, what additional resources would be needed to implement the changes.

As noted in the report, a great deal of work has been done in closing 9,603 releases of petroleum from commercial underground storage tanks and 6,356 releases of petroleum from noncommercial underground storage tanks. However, the work remaining is substantial, with a backlog of 6,500 commercial tank releases and 2,100 noncommercial tank releases. It is also important to remember that new releases are still occurring, so the state's current commitment to fund cleanup of petroleum releases from USTs does not have an end date.

We look forward to improvements to the operation of the program and to the protection of the public health and environment of the citizens of North Carolina.

Sincerely,

Robin W. Smith
Assistant Secretary for Environment

cc: Secretary Freeman
Dexter Matthews (DWM)