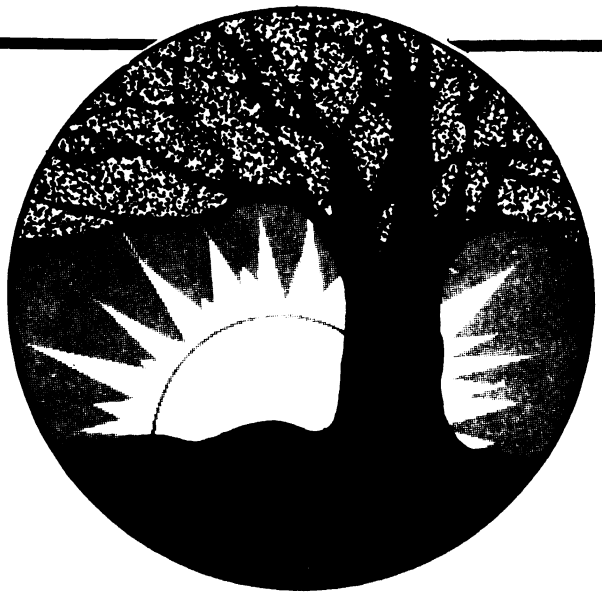
PERFORMANCE AUDIT

Department of Environment and Conservation
and
Related Environmental Boards
January 2012



Justin P. Wilson
Comptroller of the Treasury

State of Tennessee
Comptroller of the Treasury
Department of Audit
Division of State Audit

Arthur A. Hayes, Jr., CPA, JD, CFE
Director

Deborah V. Loveless, CPA, CGFM
Assistant Director

Diana Jones, CGFM
Audit Manager

Nichole Curtiss, CFE, CGFM
In-Charge Auditor

Stacey Green, JD
Alan Hampton
Lauren Klomp, CGAP
Hal Qazi
Ricky Ragan, CFE
Staff Auditors

Amy Brack
Editor

Comptroller of the Treasury, Division of State Audit
1500 James K. Polk Building, Nashville, TN 37243-1402
(615) 401-7897

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STATE OF TENNESSEE
COMPTROLLER OF THE TREASURY
DEPARTMENT OF AUDIT
DIVISION OF STATE AUDIT
SUITE 1500
JAMES K. POLK STATE OFFICE BUILDING
NASHVILLE, TENNESSEE 37243-1402
PHONE (615) 401-7897
FAX (615) 532-2765

January 23, 2012

The Honorable Ron Ramsey
Speaker of the Senate
The Honorable Beth Harwell
Speaker of the House of Representatives
The Honorable Mike Bell, Chair
Senate Committee on Government Operations
The Honorable Jim Cobb, Chair
House Committee on Government Operations
and
Members of the General Assembly
State Capitol
Nashville, Tennessee 37243

Ladies and Gentlemen:

Transmitted herewith is the performance audit of the Department of Environment and Conservation and Related Environmental Boards. This audit was conducted pursuant to the requirements of Section 4-29-111, *Tennessee Code Annotated*, the Tennessee Governmental Entity Review Law.

This report is intended to aid the Joint Government Operations Committee in its review to determine whether the department and the related boards should be continued, restructured, or terminated.

Sincerely,

Arthur A. Hayes, Jr., CPA
Director

AAH/dlj
11-054

State of Tennessee

Audit Highlights

Comptroller of the Treasury | Division of State Audit

Performance Audit
Department of Environment and Conservation
and Related Environmental Boards
January 2012

AUDIT OBJECTIVES

The objectives of the audit were to determine the inspection and complaint process for Class I landfills and to assess whether inspections are timely and the progress toward meeting the 25 percent waste reduction goal; to follow up on issues identified in prior audits, including whether the Division of Underground Storage Tanks is meeting EPA on-site inspection requirements, the status of the Compliance Advisory Panel required by the federal Clean Air Act, progress toward meeting Policy 22 review requirements, and monitoring efforts for landfills closed prior to permitting laws; to determine the responsibilities of the Ground Water Protection Division and consider issues such as staff workload and the division's ability to carry out enforcement actions; to determine the department's efforts at outreach to the public and business community to aid in achieving compliance with laws and regulations; to gather, review, and report information regarding meetings, attendance, and demographics for the Air Pollution Control Board, the Board of Ground Water Management, the Petroleum Underground Storage Tank Board, the Solid Waste Disposal Control Board, and the Water Quality Control Board; and to gather and report Title VI information, staff demographics information, and performance measures data.

FINDINGS

Ineffective Internal Controls Affect the Completeness, Accuracy, and Reliability of Inspection Data in the Division of Solid and Hazardous Waste Management's WasteBin Database

Management needs to implement internal controls to ensure data reliability and completeness of data entered into WasteBin, a database used by the Division of Solid and Hazardous Waste Management to document landfill inspections, complaints, and enforcement actions (page 22).

The Department Is Failing to Meet an Internal Policy Regarding the Monthly Inspections of Class I Landfills

We found that the department failed to meet the internally developed inspection

frequency for Class I landfills for the 2010 calendar year. Based on information in the database and the hard-copy inspection forms, the division failed to inspect 14 of 34 Class I facilities (41%) monthly; 3 of the 14 facilities were inspected 12 or more times per year but not each month as required by policy (page 25).

Negative Response Inspection Forms Provide Inadequate Information for Oversight Activities

The initial intent of auditors' review discussed in Findings 1 and 2 was not only to determine data reliability and inspection timeliness, but also to assess whether inspectors were inspecting landfills to ensure that landfills are being operated within the rules and regulations, and policies and procedures governing landfills. However, the current negative response inspection forms prevented an assessment of this nature. Negative response forms require documentation only when there is a problem notation or violation. As such, the forms lacked information needed for auditor review of this area. Consequently, the same dilemma also exists for management (page 26).

The Department Is Still Not Meeting All the Established Minimum Requirements for Subcontract Monitoring; in Addition, the Division of Internal Audit Failed to Submit an Accurate Monitoring Plan to the Department of Finance and Administration for Fiscal Year 2011 and Did Not Adequately Document the Changes

Auditors' follow-up to the prior finding cited in the January 2010 performance audit report found that the Department of Environment and Conservation is still not monitoring the minimum number and dollar amounts of its subrecipient contracts as required by the Department of Finance and Administration. Furthermore, the Division of Internal Audit submitted an annual Policy 22 monitoring plan for fiscal year 2010-2011 that did not accurately reflect the correct total dollar amount or the correct number of contracts chosen in the sample population. However, in accordance with recommended actions listed in the prior audit, the department has developed formal, written policies and procedures regarding Policy 22; has instituted mechanisms for better and more efficient use of resources—including formal approval of contract selection by the Internal Audit Director; and has taken into consideration both risk-level and recency of review during annual, subcontract population sampling (page 28).

Several Environmental Boards Do Not Have Signed Conflict-of-Interest Forms From All of Their Current Members; the Department Needs a Policy Mandating That Environmental Board Members Complete Annual Conflict-of-Interest Statements

The Department of Environment and Conservation lacks a written policy mandating annual disclosure by board members to acknowledge financial interests, other possible conflicts of interest, and general acknowledgement of any conflict-of-interest policies in place for each entity.

A review of the six environmental boards covered in this audit found that only one board had conflict-of-interest forms from current board members signed in 2011. There is an inherent risk of conflicts of interest because state law dictates that many board members represent special interest groups. Requiring annual signed disclosures not only causes board member acknowledgement of these inherent conflicts and facilitates an understanding of the department's policy but also alerts department personnel involved with board

proceedings of any potential conflicts to help ensure board members recuse themselves as necessary (page 33).

The Compliance Advisory Panel, First Required by Federal Law in 1995, Was Finally Established in 2009 But Still Has Not Held a Meeting Other Than One Informational Meeting via Conference Call in December 2010, at Which No Voting Took Place; and the Panel Still Lacked Two Member Appointments as of November 2011

The 2005 performance audit found the department had not established the federally mandated Compliance Advisory Panel. The January 2010 performance audit found that the Compliance Advisory Panel had been established but lacked four member appointments. As of November 2011, the panel still lacks two of the federally required seven members (page 36).

OBSERVATIONS AND COMMENTS

The audit also discusses the following issues: solid waste reduction efforts, inspections of closed landfills, the Underground Storage Tank Division's inspection process, and the Ground Water Protection Division's activities and staffing (page 38).

Performance Audit
Department of Environment and Conservation
and Related Environmental Boards

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Performance Audit
Department of Environment and Conservation
and Related Environmental Boards

INTRODUCTION

PURPOSE AND AUTHORITY FOR THE AUDIT

This performance audit of the Department of Environment and Conservation and five related environmental boards was conducted pursuant to the Tennessee Governmental Entity Review Law, *Tennessee Code Annotated*, Title 4, Chapter 29. Under Section 4-29-233, the Department of Environment and Conservation is scheduled to terminate June 30, 2012. The Air Pollution Control Board was scheduled to terminate June 30, 2011, and is currently in wind-down pending legislative action. The Board of Ground Water Management, the Petroleum Underground Storage Tank Board, the Solid Waste Disposal Control Board, and the Water Quality Control Board are scheduled to terminate June 30, 2012. The Comptroller of the Treasury is authorized under Section 4-29-111 to conduct a limited program review audit of the agency and to report to the Joint Government Operations Committee of the General Assembly. The audit is intended to aid the committee in determining whether the Department of Environment and Conservation and related boards should be continued, restructured, or terminated.

OBJECTIVES OF THE AUDIT

The objectives of the audit were

1. to determine the inspection and complaint process for Class I landfills and to assess whether inspections are timely and the progress toward meeting the 25 percent waste reduction goal;

2. to follow up on issues identified in prior audits, including whether the Division of Underground Storage Tanks is meeting EPA on-site inspection requirements, the status of the Compliance Advisory Panel required by the federal Clean Air Act, progress toward meeting Policy 22 review requirements, and monitoring efforts for landfills closed prior to permitting laws;

3. to determine the responsibilities of the Ground Water Protection Division and consider issues such as staff workload and the division's ability to carry out enforcement actions;

4. to determine the department's efforts at outreach to the public and business community to aid in achieving compliance with laws and regulations;

5. to gather, review, and report information regarding meetings, attendance, and demographics for the Air Pollution Control Board, the Board of Ground Water Management, the Petroleum Underground Storage Tank Board, the Solid Waste Disposal Control Board, and the Water Quality Control Board; and

6. to gather and report Title VI information, staff demographics information, and performance measures data.

SCOPE AND METHODOLOGY OF THE AUDIT

The activities of department and related environmental boards were reviewed for the period January 2009 through August 2011. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Methods used included

1. review of applicable legislation and policies and procedures;
2. reviews of prior audit reports and documentation;
3. examination of the entity's records, reports, and information summaries; and
4. interviews with department staff and staff of other state agencies that interact with the agency.

ORGANIZATION AND STATUTORY RESPONSIBILITIES

The Department of Environment and Conservation is responsible for protecting and improving the quality of Tennessee's land, air, and recreation resources. Through the Bureau of Environment, the department serves as the state's chief environmental regulatory agency. Through permit issuance, compliance monitoring, and enforcement, the department regulates sources of air and water pollution, solid and hazardous waste processing and disposal facilities, radiological health issues, petroleum underground storage tanks, drinking water supply, ground water protection, oil and gas exploration and drilling, inactive hazardous substance sites, and other environmental issues, and provides geological services. Through the Bureau of Parks, the department manages 53 state parks and 81 state natural areas. State parks include (1) resort parks that provide conference centers, golf courses, and marinas; (2) rustic parks that provide swimming, rafting, cabins, and camping; and (3) day-use parks that provide opportunities for hiking, fishing, and other activities. Tennessee's natural and cultural resources are also protected and conserved through the recognition of state natural areas and 13 state scenic rivers, activities of the Tennessee Historical Commission, and assistance to local governments for parks and

recreation programs. These two bureaus provide community outreach and education activities to support department goals.

The department is staffed by over 2,900 employees located across Tennessee and is organized into four major sections:

Bureau of Environment,

Administrative Services,

Bureau of Parks – Operations and Conservation, and

Bureau of Parks – Hospitality and Special Events.

See the organization chart on page 4.

In addition to these four major sections described in detail below, the department's Public Affairs Office, Internal Audit, Legislative Liaison, and Office of General Counsel also report directly to the Commissioner. Recreation Educational Services reports directly to the Deputy Commissioner of the Bureau of Parks and Conservation.

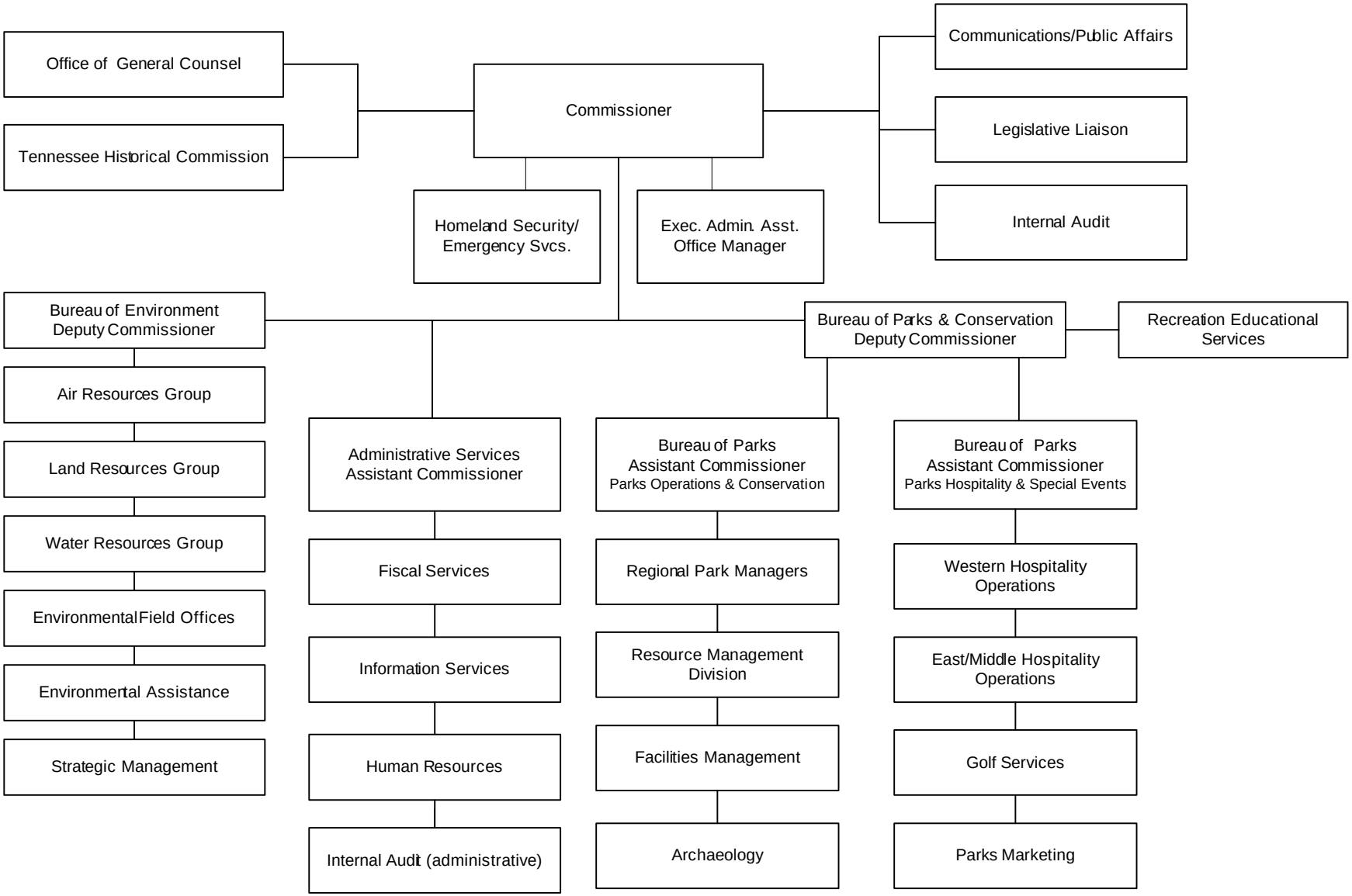
Bureau of Environment

Air Resources Group

The Division of Air Pollution Control is mandated to maintain the purity of Tennessee's air resources consistent with the protection of normal health, general welfare, and physical property of the people while preserving maximum employment and enhancing the industrial development of the state. The division's responsibilities include monitoring air quality, adopting and enforcing regulations, establishing emission standards and procedure requirements, and issuing construction and operating permits to industry.

The Division of Radiological Health is responsible for protecting Tennesseans and the environment from the hazards associated with ionizing radiation. Its duties include licensing medical, academic, and industrial facilities that possess x-ray equipment; inspecting licensed and registered facilities; performing environmental monitoring; and providing emergency response training.

Department of Environment and Conservation
Organization Chart
December 2011



Water Resources Group

The Division of Ground Water Protection regulates wastewater disposal to ensure that the ground water of Tennessee is maintained in a safe and usable condition. The division permits, oversees construction, inspects, and approves underground septic systems for wastewater disposal in areas lacking wastewater treatment plants. The division also permits construction and inspects repairs made to systems that fail. Staff respond to complaints associated with malfunctioning wastewater disposal systems and take appropriate enforcement action to ensure corrections are made. The division also performs soil evaluations in order to determine suitability for subsurface sewage systems.

The Division of Water Pollution Control is responsible for protecting the quality of Tennessee's water. The division monitors and issues permits for municipal, industrial, and other discharges of wastewater to ensure water quality protection. The division inspects facilities, samples discharges for compliance, and pursues enforcement as necessary. The division also regulates surface mining of minerals other than coal, and investigates illegal coal mining activities.

The Division of Water Supply regulates the quality and quantity of drinking water, the construction of non-federal dams, water withdrawal registration, and the licensing of well drillers and pump setters. The division is also responsible for supervising construction and operation of public water supplies. It conducts an enforcement program that requires water suppliers to meet requirements of the Safe Drinking Water Act with respect to water quality and information reporting. It certifies labs and water suppliers that test drinking water samples, conducts sanitary surveys of water supply systems, tests and trains water supply system operators, and maintains a database of water supply information. The division also certifies, inspects, and approves dams and reservoir projects.

The West Tennessee River Basin Authority is charged with water resource management in the 20-county area drained by the Obion, Forked Deer, Loosahatchie, and Hatchie River systems.

Land Resources Group

The Division of DOE Oversight implements the department's responsibilities under the Tennessee Oversight Agreement and the Federal Facility Agreement. Since being established, the division has added Natural Resource Damage Assessment and Federal Facility Compliance Act activities to its list of responsibilities. The division's major responsibilities include monitoring and oversight (a non-regulatory independent environmental monitoring and oversight program that supplements activities conducted under applicable environmental laws and regulations) and environmental restoration (a regulatory-based program that provides the state's participation in the activities conducted under the CERCLA Federal Facility Agreement for the Oak Ridge Reservation). Additional responsibilities include coordination of activities involving DOE with TDEC and other state, federal, and local agencies.

The Division of Geology promotes the prudent development and conservation of Tennessee's geological, energy, and mineral resources by developing and maintaining databases, maps, and technical services; providing accurate geological hazard assessments; and disseminating geologic information through publications and educational outreach activities.

The Division of Remediation is responsible for identifying and investigating hazardous substance sites, and developing practical and effective remedies to stabilize, remediate, contain, monitor, and maintain these sites. Under the Voluntary Cleanup Oversight and Assistance Program, parties may voluntarily enter into consent agreements to clean up and redevelop contaminated properties. The division also provides oversight for the cleanup of soil and ground water polluted by solvents released in dry cleaning operations.

The Division of Solid and Hazardous Waste Management's mission is to protect and enhance the public health and environment from existing and future contamination of the land through management and remediation of solid and hazardous wastes. The division issues permits for different classes of landfills and hazardous waste, and has programs for the remediation of hazardous waste sites, recycling of used oil, lead-based paint abatement, special waste (e.g., medical/infectious waste) approval, and annual waste reporting.

The Division of Underground Storage Tanks is responsible for preventing future petroleum underground storage tank releases and remediating existing storage tank contamination.

The department has eight environmental field offices across the state to carry out regional duties and provide assistance and information to the public and the regulated community. This assistance includes a program of grants and loans to help local communities develop and maintain drinking water and wastewater infrastructures, as well as solid waste disposal, waste prevention, and recycling programs.

The Office of Environmental Assistance provides information and non-regulatory support to businesses, schools, local governments, industries, organizations, and individuals in order to prevent and reduce environmental impacts.

Five environmental boards attached to the Bureau of Environment are included in this audit: the Air Pollution Control Board, the Ground Water Management Board, the Petroleum Underground Storage Tank Board, the Solid Waste Disposal Control Board, and the Water Quality Control Board. See page 11 for an overview of these boards and their activities.

Administrative Services

Administrative Services provides support and technical assistance for the daily operations of the department and includes Fiscal Services, Human Resources, and Information Services.

Bureau of Parks – Operations and Conservation

Parks and Park Management includes the regional park managers and the individual park managers who report to them.

The Division of Archaeology is responsible for protecting and keeping accurate records on all archaeological sites and artifacts on all state lands. It fulfills this responsibility by surveying the state to identify archaeological sites, excavating prehistoric and historic sites, encouraging public cooperation and responsibility for site preservation, and working with other state agencies to protect and manage sites on state lands.

The Resource Management Division is responsible for the restoration and protection of plants, animals, and natural communities that represent the natural biological diversity of Tennessee. The division conducts a wide variety of programs and activities focused on the conservation, restoration, and management of Tennessee's vast diversity of natural resources. These activities include providing technical assistance and educational programs for governmental agencies, non-governmental organizations, industrial and other private landowners, and educational institutions, as well as managing a statewide system of state natural areas and scenic rivers.

Facilities Management completes an annual assessment of all park facilities to determine their condition and estimate the cost of needed repairs and renovations. Then it assembles and implements the annual major maintenance work program.

Bureau of Parks – Hospitality and Special Events

The Division of State Parks includes seven resort parks—Fall Creek Falls, Henry Horton, Montgomery Bell, Natchez Trace, Paris Landing, Pickwick Landing, and Reelfoot Lake. These parks provide restaurants, cabins, group lodges, conference centers, marinas, recreational rooms, swimming pools, outdoor sporting facilities, and inns. This bureau includes Hospitality Operations, Golf Services, and Marketing.

NON-REGULATORY SERVICES

Through its Office of Environmental Assistance and staff in the Environmental Field Offices and individual environmental divisions, the department's Bureau of Environment conducts numerous environmental outreach initiatives and provides non-regulatory support services to the general public, schools, businesses, and industries. These activities are described below.

Office of Environmental Assistance

The Office of Environmental Assistance (OEA) provides information and non-regulatory support to industries, schools, businesses, government agencies, and households. The office hosts and supports environmental conferences, encourages community participation, and

promotes pollution prevention as well as environmental awareness throughout Tennessee. Office programs include Community Solid Waste Outreach, the Fleming Training Center, the Indoor Air Quality Tools for Schools Program, the Radon Program, and the Tennessee Pollution Prevention Partnership.

The OEA has environmental coordinators located in the department's Environmental Field Offices (see page 9) across the state to function as regional points of contact for all programs and activities within the OEA. Environmental coordinators provide information and referrals, coordinate regional education and outreach activities, provide confidential technical information, and assist with the permitting process. Coordinators also represent the department at conferences, exhibit booths, and other functions while establishing working relationships with the environmental, industrial, governmental, and academic sectors in the community.

Environmental coordinators respond to requests from existing industries for information and referrals regarding specific TDEC permitting requirements and questions. They work with the Department of Economic and Community Development (ECD) to help prospective new industries identify and understand any environmental permits that may be required for conducting manufacturing operations in Tennessee. Environmental coordinators and Environmental Field Office directors meet with ECD staff and industry representatives, as requested, to provide an overview of possible TDEC permit requirements, along with applicable regulations, application forms, appropriate TDEC division contacts, and other resources.

The Office of Environmental Assistance (OEA) provides solid waste education and assistance to schools, businesses, and the community. OEA has made reducing waste in K-12 schools a priority—providing direct assistance with setting up recycling programs and advising on source reduction strategies. Using both OEA staff and a Tennessee Solid Waste Education Project contract with the University of Tennessee, students and teachers have been educated through classroom programs, teacher training, service learning, and special functions like Conservation Camps. Partnerships with the Tennessee Environmental Education Association, Keep America Beautiful affiliates, and other state agencies as well as environmental educators across the state have extended OEA's solid-waste education initiatives.

The Fleming Training Center supports Tennessee's Water Environmental Health Act by providing training, certification, and technical assistance to water and wastewater operators across Tennessee. The center conducts training classes and continuing education seminars for water distributors and wastewater collection system operators; administers the Operator Certification Program; conducts basic training and tests backflow prevention devices; and provides technical assistance statewide to water and wastewater operators and facilities.

The Office of Environmental Assistance is also responsible for management of the Indoor Air Quality Tools for Schools Program in Tennessee. The objectives and goals for the program include promotion through presentations and distribution of materials describing the program. In addition, OEA is tasked to assist select schools in voluntarily creating and maintaining indoor air quality programs. This effort includes conducting presentations and training sessions to educate school administrators, teachers, and operations and maintenance directors about the goals and potential benefits of implementing indoor air programs.

The Tennessee Radon Program provides education and training regarding radon and offers services and assistance including test kits for homeowners, technical information for universities, and specific materials for targeted audiences such as real estate professionals, home builders, building codes officials, home inspectors, and school officials. (Radon, which can cause serious health problems, comes from the natural breakdown of uranium in soil, rock, and water; it gets into the air and settles into homes and other buildings.)

The Tennessee Pollution Prevention Partnership (TP3) is a public/private recognition program encouraging leadership in sustainable practices and beyond-compliance environmental excellence. The partnership provides technical support and assistance, networking opportunities, and recognition to schools, businesses, industries, governmental agencies, organizations, and households. The Tennessee Pollution Prevention Roundtable provides communication resources and promotes pollution prevention opportunities statewide. Green Schools is the largest membership category in TP3, comprising public and private schools as well as colleges, universities, and K-12 schools. The TP3 Green Schools program goals include increasing environmental education and literacy in Tennessee schools, producing knowledgeable and responsible environmental citizens, and cultivating appreciation of nature and stewardship of the natural world. Table 1 lists TP3 education and outreach activities for fiscal year 2011.

Auditors conducted interviews and examined documentation in order to gain a better understanding of the outreach initiatives and support for non-regulatory services provided to schools, businesses, industries, and the general public by the Office of Environmental Assistance. Auditors reviewed event listings, brochures, presentations, handouts, agendas, attendance sheets, and quarterly and weekly reports in an effort to verify these activities took place.

Table 1
TP3 Education and Outreach Activities
Fiscal Year 2011

August 2010	Tennessee Safety and Health Congress
September 2010	2010 Tennessee Pollution Prevention (TP3) Conference
November 2010	Summit for a Sustainable Tennessee
March 2011	Tennessee Environmental Conference
March 2011	Vanderbilt Green Careers Fair
March 2011	Nashville Facilities Maintenance Expo
April 2011	2011 TP3 Workshop Planning Teams
April 2011	Triumph Aerostructures TP3 Performer Ceremony/Earth Day Celebration
April 2011	Vanderbilt Earth Day Clean Air Fair
April 2011	Lipscomb University Green Business Summit
April 2011	Nashville Earth Day Festival
April 2011	General Motors Company Spring Hill Open House

Environmental Field Offices

There are eight Environmental Field Offices (EFOs) across the state, in Memphis, Jackson, Nashville, Columbia, Cookeville, Chattanooga, Knoxville, and Johnson City. EFOs are

the starting point for any environmental question, concern, or complaint and have personnel (including the environmental coordinators discussed above) available to assist industries and individuals with permitting needs, perform outreach functions, and provide general guidance to the public.

Field office staffing includes a director, administrative support staff, and technical personnel representing the department's regulatory, environmental assistance, and conservation programs. The regional presence of the field offices allows staff to provide customer service on a one-to-one basis. Field office staff are often the initial point of contact for inquiries or requests for assistance from the general public, elected officials, and the regulated community. To enhance communication with the public, TDEC has a toll-free number that directs callers to the appropriate field office based on the caller's location. The department also maintains a website at www.tn.gov/environment/efo, providing information about each field office and key staff contact information to help the public locate the correct contact person. Field office staff also serve as partners or speakers at environmental events, conferences, institutions of higher education, and community groups in an effort to achieve positive interaction with the public.

While the department is mandated to enforce environmental regulations, one of its outreach goals is to achieve voluntary regulatory compliance through education and technical assistance. Field office personnel may be asked to provide input into various plans or projects, including regional transportation plans, grant applications, community sustainability efforts, Brownfield redevelopment projects, Economic and Community Development projects, voluntary remediation projects, and permit coordination for new industries. In addition, each field office has designated staff to respond to emergencies by providing technical assistance and regulatory guidance to the Tennessee Emergency Management Agency, county emergency management directors, and other responsible parties.

Individual Environmental Divisions

In addition to their regulatory duties, the department's environmental divisions also conduct outreach activities and non-regulatory support to the public. For example, the department's Division of Air Pollution Control has Clean Air initiatives to increase public awareness regarding the impact local citizens have on air quality and emphasize each person's ability to improve air quality. During fiscal year 2010, the division provided outreach and education by having violators of Tennessee's Clean Air Act who conducted illegal open burning place advertisements in local area newspapers. These advertisements outlined what is and is not legal to burn in Tennessee as well as some alternative methods of disposing of unwanted items instead of burning them. The division also sets up display booths at local area events to communicate the causes and effects of air pollution. Many of these events offered one-on-one assistance to Tennesseans, such as free radon detection kits to homeowners, signing up people for air quality alerts through e-mail, and providing educational resources for teachers to take back to the classroom.

The Division of Solid and Hazardous Waste Management administers Household Hazardous Waste Collection events and provides recycling and cleanup grants to local governments. The Division of Remediation promotes EPA grants for the cleanup and

assessment of Brownfields in Tennessee through speaking events and hosting grant writing workshops for potential grant applicants. (Brownfields are abandoned or underutilized properties that may have real or perceived contamination that hinders redevelopment, and thus need assessment and potential cleanup.) Division of Ground Water Protection staff have been trained and are able to provide Radon Program services for all 95 counties. They distribute radon kits and consult about radon resistant construction.

OVERVIEWS OF ENVIRONMENTAL BOARDS

This audit includes five environmental boards that are attached to the Department of Environment and Conservation. See below for an overview of each board and its membership and activities. Overall, auditors' review found that the boards were meeting and carrying out their duties as required. Reviews of meeting minutes did find some attendance problems by individual members (detailed below); however, all boards met the quorum requirements during the period reviewed. We also identified an issue concerning board members' completion of conflict-of-interest statements; this issue is discussed in Finding 5.

Air Pollution Control Board

The Air Pollution Control Board, created by Section 68-201-104, *Tennessee Code Annotated*, is composed of the Commissioner of Environment and Conservation, the Commissioner of Economic and Community Development, and 12 Governor-appointed members as follows:

- one registered professional engineer with at least five years' experience in the field of air pollution control;
- one licensed physician experienced in the health effects of air contaminants;
- one person engaged directly in either agriculture or conservation;
- one person engaged in the management of a private manufacturing concern, appointed from a list of three nominations by the Tennessee Association of Business;
- one county mayor or chief executive officer of a Tennessee county, appointed from a list of three nominations by the Tennessee County Services Association;
- one person engaged in municipal government, appointed from a list of three nominations by the Tennessee Municipal League;
- two persons from Tennessee industry with technical training and experience in air pollution abatement, appointed from a list of three nominations by the Tennessee Association of Business;
- one person involved in the program of an institute of higher learning in the state involved in the conducting of training in air pollution evaluation and control;
- one person nominated by the Tennessee Conservation League;

- one small generator of air pollution, appointed from a list of three nominations by the Tennessee Automotive Association; and
- one person appointed from a list of three nominations by the Tennessee Environmental Council.

Each member may be reimbursed for travel expenses and is allowed a per diem of $50, but the per diem will only be paid to members for meetings at which a quorum is present.

The Air Pollution Control Board is required to hold at least two regular meetings each calendar year. Eight members of the board constitute a quorum, and a quorum may act for the board in all matters. We reviewed minutes from June 2009 through July 2011 and determined that there were 14 meetings held during that time, all meeting the quorum requirement. We also determined that the current members had attendance rates ranging from 42% to 100%; one current member (the Tennessee Municipal League representative) had an attendance rate of 50% or below. Fifty-seven percent of current board members lacked signed conflict-of-interest forms.

The board is authorized by Section 68-201-105, *Tennessee Code Annotated*, to promulgate rules and regulations that define ambient air quality standards; emission standards; a system of permits; a schedule of fees for review of plans and specifications; general policies or plans; and issuance or renewal of permits or inspection of air contaminant sources. The board is also authorized to hold hearings and issue orders and determinations as may be necessary to enforce these rules and regulations. For the period reviewed, the board heard and approved 29 agreed orders. No contested cases were heard during this period.

Board of Ground Water Management

The Board of Ground Water Management, created by Section 69-10-107, *Tennessee Code Annotated*, is composed of five members. Three are Governor-appointed members (one from each grand division of the state) who are actively engaged in the drilling of wells. These members are limited to two consecutive, three-year terms. The other two members, the Commissioner of the Department of Environment and Conservation (TDEC) and the TDEC Director of Water Supply or their designees, are ex officio. This board is required to meet at least once annually and was established to advise and assist the Commissioner in the preparation of rules and regulations for ground water management. Board members are eligible for reimbursement of travel expenses.

This board is also required to review applications for well driller or installer licenses and make recommendations to the Commissioner either for or against the issuance of a license. Table 2 denotes each annual license cost.

Table 2
Board of Ground Water Management
License Type and Fee Amounts

License Type	Annual Fee (Due by July 31)
Water Well Driller	$100
Monitor Well Driller	$100
Geothermal Well Driller	$100
Pump Installer	$50
Water Treatment Installer	$50
Closed Loop Installer	$50

Based on a review of board meeting minutes between August 6, 2009, and April 28, 2011, the board met eight times and had an overall 94% attendance rate. The quorum requirement of three members present was met for each meeting. All current members signed Ethics and Conflict of Interest Statements in July or August 2011.

Based on auditors' review of the board meeting minutes, the board evaluated applications for 46 applicants, which included requests for 61 licenses. Overall, the board approved 89% of licenses (54 of 61); denied 10% (6 of 61); and had one decision that was not noted in the minutes. Table 3 gives a breakdown of the licenses issued and denied.

The board also reviews proposed continuing education training for well drillers. During the time period reviewed, only one company proposed training. The training was Internet-based and covered injection wells, abandonment of wells, geology, and ground water. Per Rule 1200-4-9-.06(1)(j), approved training must be designed to improve, advance, or extend the licensee's professional skill and knowledge in areas such as well drilling, pump installation, and water treatment courses. The board subsequently denied the training because of limited content and lack of in-depth discussion of the topics.

Table 3
License Application Recommendations
August 6, 2009, Through April 28, 2011

License Type	Approve	Deny
Water Well Driller	12	0
Conditional* Water Well Driller	1	0
Monitor Well Driller	8	0
Geothermal Well Driller	15	0
Conditional* Geothermal Well Driller	2	0
Pump Installer	12	4
Conditional* Pump Installer	2	0
Water Treatment Installer	1	2
Conditional* Water Treatment Installer	1	0

* Conditional denotes that a full license was not issued and certain restrictions were placed on the licensee as allowed by Rule 1200-4-9-.06.

Petroleum Underground Storage Tank Board

The Petroleum Underground Storage Tank Board, created by Section 68-215-112, *Tennessee Code Annotated*, is composed of nine members, eight of whom are Governor-appointed; the ninth member, the TDEC Commissioner, or his designee, is ex officio. The Governor-appointed members are as follows:

- one person employed by a private business concern with experience in the management of petroleum, appointed from a list of three names submitted by the Tennessee Association of Business;
- one person who is employed by a private petroleum concern with experience in the management of petroleum, appointed from a list of three names submitted by the Tennessee Petroleum Council;
- one person who is employed by a private petroleum concern with experience in the management of petroleum, appointed from a list of three names submitted by the Tennessee Oil Marketers Association;
- one person with experience in the management of petroleum, who is the owner and/or operator of one private petroleum underground storage tank facility that has no more than five tanks and who is not affiliated with the Tennessee Chamber of Commerce and Industry, the Tennessee Petroleum Council, the Tennessee Oil Marketers Association, the Tennessee Environmental Council, or the Tennessee Municipal League;
- one person who is a representative of environmental interests knowledgeable of the management of petroleum products and/or hazardous substances, appointed from a list of three names submitted by the Tennessee Environmental Council;
- one person appointed from a list of three names submitted by the Tennessee Municipal League; and
- two persons who are consumers of petroleum products and are not affiliated with the Tennessee Chamber of Commerce and Industry, the Tennessee Petroleum Council, the Tennessee Oil Marketers Association, the Tennessee Environmental Council, or the Tennessee Municipal League.

The Director of the Division of Petroleum Underground Storage Tanks or a designee acts as technical secretary to the board but has no vote at meetings.

The Petroleum Underground Storage Tank Board must hold at least two meetings each calendar year. Board members are entitled to reimbursement of travel expenses, and members other than the ex officio member are entitled to a $50 per diem.

Pursuant to Section 68-215-107(f), *Tennessee Code Annotated,* the board may promulgate and adopt rules and regulations associated with

- requirements for maintaining a leak detection system, inventory control system, and tank testing;
- requirements for maintaining records of petroleum delivery, monitoring or leak detection systems, and inventory control systems or tank testing;
- requirements for reporting releases;
- requirements for taking corrective action in response to a release from a petroleum underground storage tank;
- requirements for closure of a petroleum underground storage tank to prevent future releases;
- requirements that new petroleum underground storage tanks meet board-promulgated design standards prior to installation;
- requirements that existing petroleum underground storage tanks either be retrofitted to meet new standards or replaced with new tanks;
- requirements for maintaining evidence of financial responsibility for taking corrective action as well as compensating third parties for sudden injury and property damage caused by accidental releases;
- requirements for providing the assessment and collection of fees; and
- requirements for certification programs for installers, service providers, owners, and operators.

We reviewed minutes from March 2009 through August 2011 and determined that there were 12 meetings held during this time. The board met more than two times each calendar year, and there was a quorum present for each meeting. As for attendance, there are two current members with attendance 50% or below. See Table 4. In addition, the board position to be filled by nominations from the Tennessee Environmental Council position had been vacant since January 2011 but was filled in August 2011.

Table 4
Petroleum Underground Storage Tank Board
Member Positions With 50% or Lower Attendance Rate

Position Held	Eligible Meetings	Meetings Attended	Attendance Rate	Time Serving on Council
Tennessee Municipal League	12	6	50%	7/1/05 – 6/30/13
Citizen – Consumer	12	6	50%	2/16/05 – 6/30/15

During these meetings, the board was presented with 16 agreed orders, and all were approved. Additionally, the board had 21 contested cases, of which 4 ended in agreed orders, 5 involved approving penalty amounts, and 12 held the respondent in default and the board found in favor of the state.

Solid Waste Disposal Control Board

The Solid Waste Disposal Control Board, created by Section 68-211-111, *Tennessee Code Annotated*, is composed of 11 members, 9 of whom are appointed by the Governor. The Commissioner of the Department of Environment and Conservation and the Commissioner of the Department of Economic and Community Development or their designees serve as ex officio members. The Governor-appointed members are as follows:

- one person engaged in a field which is directly related to agriculture, appointed from a list of three nominations by the Tennessee Farm Bureau;
- two persons employed by a private manufacturing concern with experience in management of solid wastes and hazardous materials, appointed from a list of six nominations by the Tennessee Manufacturers Association;
- one registered engineer or geologist or qualified land surveyor with knowledge of management of solid waste or hazardous materials from the faculty of an institution of higher learning, appointed from a list of four nominations, two from the University of Tennessee Board of Trustees and two from the Tennessee Board of Regents;
- one person with knowledge of management of solid wastes or hazardous materials, appointed from a list of three nominations by the Tennessee Environmental Council;
- one person engaged in the business of solid waste or hazardous materials management;
- one person appointed from a list of three nominations by the County Services Association;
- one person appointed from a list of three nominations by the Tennessee Municipal League; and
- one person who is a small generator of solid wastes or hazardous materials, appointed from a list of three nominations by the Tennessee Automotive Association.

The Director of the Division of Solid and Hazardous Waste Management or a designee serves as the board's technical secretary but does not vote at board meetings.

The board is responsible for promulgating and enforcing rules and regulations the board deems necessary for administering solid and hazardous waste laws. Also, the board hears appeals of department actions related to enforcement and permitting.

The board is required to meet at least four times each calendar year, with five members constituting a quorum. Each appointed member is entitled to $50 for each day employed in the discharge of official duties and certain traveling and other expenses as deemed appropriate.

Section 68-211-111(i), *Tennessee Code Annotated*, stipulates that "no member of the board shall participate in making any decision of a permit or upon a case in which the municipality, firm, or organization which the member represents, or by which the member is employed, or in which the member has a direct substantial financial interest, is involved."

We reviewed board minutes from February 2009 through April 2011 and determined the board held 11 meetings: four meetings in calendar year 2009, five meetings in 2010, and two thus far in 2011. A quorum was present for each meeting. Overall, the current member attendance rate was 69%. However, there were two members with very low attendance. These particular members also had lower attendance rates in minutes reviewed for the 2010 performance audit.

Table 5
Solid Waste Disposal Control Board
Low Attendance Summary

Member Position	Term	Current Audit Attendance	Prior Audit Attendance
Tennessee Farm Bureau	7/1/04 – 6/30/12	27% (3 of 11)	20% (1 of 5)
Tennessee Automotive Association	5/8/06 – 6/30/15	0% (0 of 11)	33% (1 of 3)

The majority of meetings held involved updates provided by division personnel regarding permitting and enforcement activities. The remainder of meetings dealt with discussion of proposed rule changes and voting on whether those should be adopted and entered into the rulemaking process, including being published for public comment.

Water Quality Control Board

The Water Quality Control Board, created by Section 69-3-104, *Tennessee Code Annotated*, is composed of ten members. The Commissioner of the Tennessee Department of Environment and Conservation, the Commissioner of the Tennessee Department of Health, and the Commissioner of the Tennessee Department of Agriculture or their designees will serve as ex officio members. The remaining seven citizen members are appointed by the Governor as follows:

- one person from the public at large;
- one person representing environmental interests, appointed from a list of three nominations by the Tennessee Conservation League;
- one person representing counties, appointed from a list of three nominations by the County Services Association;
- one person representing agricultural interests, appointed from a list of three nominations by the Tennessee Farm Bureau;
- one person representing municipalities, appointed from a list of three nominations by the Tennessee Municipal League;
- one person representing small generators of water pollution, appointed from a list of three nominations by the Tennessee Automotive Association; and
- one person representing industries, appointed from a list of three nominations by the Tennessee Association of Business.

Section 69-3-105, *Tennessee Code Annotated*, details the duties of the board, which include hearing appeals from orders issued and penalties or damages assessed by the commissioner, or permit issuances, denials, revocations, or modifications by the commissioner; affirming, modifying, or revoking actions or orders of the commissioner; issuing notices such as appeals and subpoenas; administering oaths; and taking testimony. The board also has the authority to adopt, modify, repeal, and promulgate all necessary rules and regulations to establish and administer a comprehensive permit program to enable the department to issue permits under the national pollutant discharge elimination system established by the Federal Water Pollution Control Act. The board also has the power, duty, and responsibility to hold contested case hearings concerning the commissioner's issuance or denial of a permit.

The board is required to hold at least two regularly scheduled meetings per year, one in October and one in April. The majority of the board members present and voting constitutes a quorum.

Section 69-3-104(a)(9), *Tennessee Code Annotated*, stipulates that any appointed member who is absent from three consecutive, regularly scheduled meetings will be removed from the board by the Governor. Section 69-3-104(b) further stipulates that

> the state shall ensure that those members of the board who do not receive, or during the previous two (2) years have not received, a significant portion of their income directly or indirectly from permit holders or applicants for a permit shall hear all appeals on permit matters.

A significant portion of income means 10% of gross personal income for a calendar year, except that it means 50% of gross personal income for a calendar year if the recipient is over 60 years of age and is receiving that portion of income pursuant to retirement, pension, or a similar agreement.

Each citizen board member is entitled to $50 for each day employed in the discharge of official duties, and any travel and other expenses deemed necessary.

We reviewed minutes from January 2009 through August 2011 and determined that during this period, the board held 25 meetings. Overall, current members had an attendance rate of 87%, and there were no persistent absences noted for current members. We also determined that the board heard and approved 79 agreed orders and heard 7 contested cases.

UPDATE ON CURRENT MONITORING AND SANCTIONS RELATED TO THE TENNESSEE VALLEY AUTHORITY'S KINGSTON FOSSIL PLANT COAL ASH SPILL

The January 2010 performance audit contained a synopsis of the Kingston coal ash spill. The latest data in that synopsis stated that consultants hired by the Tennessee Valley Authority (TVA) reported that the "necessary systems, controls, and culture were not in place" to properly manage coal ash sites at the authority's 11 coal-fired power plants. Additionally, a July 2009

TVA Inspector General Report concluded that TVA could have prevented the spill if it had taken corrective actions.

On June 14, 2010, the Commissioner of the Department of Environment and Conservation issued an order assessing $11.5[1] million in penalties in response to the coal ash release, for violations of the Tennessee Water Quality Control Act and the Tennessee Solid Waste Disposal Control Act, to be paid as follows:

- $2.5 million to TDEC by July 15, 2010 (*PAID*);
- At least $2 million in supplemental environmental projects to benefit the environment must be proposed by TVA by December 31, 2010, and approved by TDEC (*Timely Submitted and Approved*);
- $2 million to TDEC by July 15, 2011; and
- $2 million to TDEC by July 15, 2012.

The Commissioner issued an additional order on December 17, 2010, regarding discontinuing the receiving or disposing of gypsum at the landfill and the following provisions for a corrective action plan within 30 days of the order that contains:

- a plan for inspection of the entire area of the landfill;
- a plan for determining the structural integrity of the constructed landfill;
- a plan for subsurface investigation to determine the cause and nature of the failure;
- a plan for management of gypsum waste from the Kingston Plant during the shutdown of the landfill;
- a plan for the stabilization and repair of the landfill; and
- information confirming that the leak has been permanently repaired consistent with the dike repair procedure implemented since the ash release in 2008.

The order also stipulated that TVA must pay all costs associated with TDEC's oversight of the implementation of this order, which include but are not limited to, mileage, lab expenses, salaries, benefits, and administrative costs for department employees and other state employees actively employed in oversight of work under this order, and the current state overhead rate. Oversight costs also included expenses for office space and related expenses, services contracted for by the department to facilitate or support the investigation and oversight of work under the order, such as review of plans and reports submitted by TVA.

[1] $3 million was paid at the time of the order issuance to reimburse TDEC's oversight costs, as required by the January 12, 2009, order, and credited toward the $11.5 million penalty. TVA must continue to pay these oversight costs over and above this assessment.

TVA reported as of December 7, 2011, that

- On December 1, 2010, the last of 414 train shipments of recovered coal ash was transported to the EPA-approved Arrowhead Landfill in Perry County, Alabama;
- Dike C reinforcement was completed in October 2011 by adding layers of sand and rock to improve the berm's structural integrity;
- In June 2011, TVA began consolidating spilled ash that did not enter the river. The ash is being stored on-site in the dredge cell that is being rebuilt and reinforced to resist earthquakes;
- Work began in summer 2011 on the perimeter wall stabilization project to reinforce the dredge cell; and
- TVA completed ash excavation from the north embayment in October 2011, removing more than 1.2 million cubic yards of material.

TVA, the Environmental Protection Agency, and TDEC continue to monitor both air and water in the area to confirm that both meet public health standards.

TVA also reports that due to improvements since the Kingston spill, TVA has made sure that all 24 coal ash ponds at TVA's fossil plants meet industry stability standards and intends to spend additional money to convert all ash and gypsum ponds from wet to dry storage.

REVENUES AND EXPENDITURES

Statement of Revenues and Expenditures
Actual Revenues by Source
For the Fiscal Year Ending June 30, 2010

Source	***Amount***	***Percent of Total***
State	$143,195,600	47.4%
Federal	58,968,200	19.5%
Other	100,225,200	33.1%
Total Revenue	**$302,389,000**	100%

Statement of Revenues and Expenditures
Actual Expenditures by Account
For the Fiscal Year Ending June 30, 2010

Account	*Amount*	*Percent of Total*
Payroll	$126,115,900	41.7%
Operational	176,273,100	58.3%
Total Expenditures	**$302,389,000**	100%

Statement of Revenues and Expenditures
Estimated Revenues by Source
For the Fiscal Year Ending June 30, 2011

Source	*Amount*	*Percent of Total*
State	$171,778,100	40.2%
Federal	147,870,000	34.7%
Other	107,089,600	25.1%
Total Revenue	**$426,737,700**	100%

Statement of Revenues and Expenditures
Estimated Expenditures by Account
For the Fiscal Year Ending June 30, 2011

Account	*Amount*	*Percent of Total*
Payroll	$141,775,700	33.2%
Operational	284,962,000	66.8%
Total Expenditures	**$426,737,700**	100%

Budget and Anticipated Revenues
For the Fiscal Year Ending June 30, 2012

Source	*Amount*	*Percent of Total*
State	$165,850,900	48.5%
Federal	71,774,800	21.0%
Other	104,157,500	30.5%
Total Revenue	**$341,783,200**	100%

FINDINGS AND RECOMMENDATIONS

1. Ineffective internal controls affect the completeness, accuracy, and reliability of inspection data in the Division of Solid and Hazardous Waste Management's WasteBin database

Finding

Management needs to implement internal controls to ensure data reliability and completeness of data entered into WasteBin, a database used by the Division of Solid and Hazardous Waste Management to document landfill inspections, complaints, and enforcement actions.

To assess the reliability of data in WasteBin, we queried for all Class I[2] landfill inspections conducted for calendar year 2010 and compared data to information on paper inspection forms stored at the Central Office. Based on computer data, we determined there were 34 facilities with a combined 398 inspections. Based on our review, we determined that the data in the system were accurate, but the data were incomplete.

Data Reliability and Completeness

To assess the reliability and completeness of data in WasteBin, we reviewed every Class I inspection form for the 2010 year located in the Central Office paper files for each facility. We found that 61 of 398 inspections (15%) entered into WasteBin were not located in the Central Office paper files; therefore, we were limited to reviewing 337 inspections.

For these remaining 337 inspections, the data (date of inspection, inspector initials, and violations) appeared accurate. (See Tables 6, 7, and 8.)

Table 6
Did Inspector Initials Recorded in WasteBin Match Paper Inspection Forms?
Calendar Year 2010

Yes	333	98.8%
No	3	0.9%
No signature on form	1	0.3%
Total	**337**	**100%**

Table 7
Did Inspection Date Recorded in WasteBin Match Paper Inspection Forms?
Calendar Year 2010

Yes	332	98.5%
No	5	1.5 %
Total	**337**	**100%**

[2] Rule 1200-01-07.01(3)(a) states that a Class I landfill is "…a sanitary landfill which serves a municipal, institutional, and/or rural population and is used or to be used for disposal of domestic wastes, commercial wastes, institutional wastes, municipal solid wastes, bulky wastes, landscaping and land clearing wastes, industrial wastes, construction/demolition wastes, farming wastes, shredded automotive tires, dead animals, and special wastes."

Table 8
Did Violation Status in WasteBin Match Paper Inspection Forms?
Calendar Year 2010

Yes	336	99.7%
No	1	0.3%
Total	**337**	**100%**

While the data we reviewed appeared accurate, the paper files revealed that 20 of the 34 facilities (59%) had inspection forms in the files that were not entered into WasteBin. Overall, we discovered 34 inspection forms in the paper files that inspectors/personnel failed to enter into WasteBin. Therefore, while the data entered into WasteBin appears accurate, there are internal control issues related to entering and verification of data being entered into WasteBin as well as the submitting of forms to the Central Office.

We determined through a review of procedures and discussions with the Nashville Field Office Solid Waste Director that inspectors are required to submit inspection forms to the Central Office. However, there is no stipulation regarding the time frame in which inspection forms are due. In fact, there is no requirement stipulating that inspectors must enter inspection data into WasteBin. Additionally, we determined that while at least one Environmental Field Office's staff is haphazardly comparing inspection forms to WasteBin, the division lacks a formal process requiring all Environmental Field Offices to conduct these types of reviews, to ensure reviews are completed in a consistent manner. Therefore, the Solid and Hazardous Waste Management Division should develop a policy and procedure to ensure all data are promptly entered into the database and that measures are in place to give assurance that the data entered are accurate. This will help maintain data reliability and completeness as well as ensure that quality control mechanisms are carried out in the same manner in all field offices.

We also found that paper inspection forms and computer records contain space for inspector comments. However, based on our review, we determined there were 99 inspections that had variations between comments on inspection forms versus comments in WasteBin for the same inspection. See Table 9.

Table 9
Inspection Form and WasteBin Comment Variations Summary
Calendar Year 2010

Issue	Number of Inspections
1. Had notes on inspection form but no notes in WasteBin (includes those that state "No Violations" or "See Inspection Notes").	74
2. Had notes in WasteBin that were not shown on the inspection form.	20
3. Had notes in WasteBin and no notes on the inspection form.	5
Total	**99**

By lacking notes integral to an inspection, WasteBin cannot provide all pertinent information to management for oversight and could hinder other division personnel using the system to obtain information about a particular landfill site. This directly relates to the completeness of WasteBin and should be addressed in the formal policies and procedures regarding data entry and reliability as mentioned above. One option would be to scan inspection forms into WasteBin since other divisions have had success with this method of documentation. This not only ensures that all data are accessible but also allows for quality control to be carried out at any level. Additionally, this could replace the requirement that a paper form be sent to the Central Office.

Recommendation

To ensure data reliability and completeness of WasteBin, division management, in consultation with the Commissioner, should develop written policies and procedures to implement a mechanism for conducting quality control reviews on a regular basis that ensure that all inspection forms are entered into WasteBin and that data are accurate, as well as providing guidance for the entering of data into the system. An additional measure could be to scan inspection forms into WasteBin, a practice implemented in other divisions, which could help eliminate the need for forwarding inspection forms to the Central Office while simultaneously providing access to information at all levels of the department.

Management's Comment

The department concurs in part with this finding. The department determined that it was important to house all landfill inspection reports in a central database system in 2008. The department moved from maintaining landfill inspection data in an Access database available only in the department's Central Office to a live database application accessible statewide. The department also began the transition from maintaining all inspection results as hard copies in the Central and Field Offices to adding landfill inspection data to WasteBin in 2010. As with any new process, the department has learned there are changes needed in its Compliance Monitoring Policy and Procedures to ensure that landfill inspection data are entered in a timely fashion.

The department will revise its Compliance Monitoring Policy and Procedures to set a maximum number of working days allowed from the date of landfill inspection to entering data into WasteBin. The department will finalize the Compliance Monitoring Policy and Procedures by July 1, 2012.

The department respects the Comptroller's observation regarding the WasteBin system and data entry. We ask that the Comptroller's Office recognize the department's internal decision to improve the collection, maintenance, and assessment of data gained during landfill inspections. The department notes that the Comptroller's audit used data from calendar year 2010. The WasteBin system was not fully developed until early 2010. Further, once the WasteBin application was completed, the department implemented the application for use by inspectors in the field in phases; first landfill complaints, then results from landfill inspections

and then landfill specific permit information. As with the implementation of any new software application, deployment of the system was also in phases, and there were modifications made in the WasteBin application and time required to train staff to properly utilize the system. Individual field office inspectors began entering landfill data into WasteBin on March 31, 2010, moving from a process that required data from landfill inspections to be entered by Nashville Central Office administrative staff into a Microsoft Access database.

As with any transition from one database application to another, the department had to "migrate" data from the Microsoft application to WasteBin. The data migration in January 2010 transferred the results of approximately 26,000 landfill inspections (dating back to 1998) into WasteBin. Between the January 2010 data transfer and the "go-live" date of March 31, 2010, the department produced approximately 500 solid waste facility inspections. The inspection reports with specific regulatory violations were entered into WasteBin in May 2010. The department discovered in the last quarter of 2010 that data from 309 inspections were not successfully migrated from Access into WasteBin. Thirty-four of these missing inspections were for operating Class I landfills. It should be noted that the department has reviewed the 309 inspections in question and confirmed that there were no violations identified in these inspections completed between November 2009 and February 2010. The department will complete entry of this data into WasteBin by May 1, 2012.

Since 2010, variation between data on completed landfill inspection reports and data entered into WasteBin has been significantly decreased through additional training of users. The department acknowledges the information in Table 9 of the Comptroller's Audit Report. The division accepts this finding and will implement an inspector training module based on the revised Compliance Monitoring Policy and Procedures by October 1, 2012.

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2. The department is failing to meet an internal policy regarding the monthly inspections of Class I landfills

Finding

We found that the department failed to meet the internally developed inspection frequency for Class I landfills for the 2010 calendar year.

Per Solid Waste divisional Policy 074, effective September 4, 1992, Class I landfills are to be inspected at least once per month. Based on our initial assessment (prior to data reliability testing) of the dates and number of inspections in WasteBin, it appeared that 26 (76%) of the 34 facilities were not inspected monthly as required by internal policy. Eight of the 26 were inspected 12 or more times per year but were not inspected each month. However, after the discovery of 34 additional paper inspection forms in Central Office files as discussed in Finding 1, we were able to determine that an additional 12 facilities were actually compliant with the internal inspection requirement. Therefore, based on information in the database and the hard-copy inspection forms, the division failed to inspect 14 of 34 Class I facilities (41%) monthly; 3

of the 14 facilities were inspected 12 or more times per year but not each month as required by policy.

While inspectors may have paper files available to determine when a facility was last inspected, other divisions and management who are dependent on WasteBin for inquiry and oversight activities would be accessing incomplete data, thereby possibly leading to incorrect conclusions.

Recommendation

Because of the percentage of noncompliance with the Class I inspection frequency policy, management should review the policy and assess whether it is effective at ensuring landfill compliance with requirements or whether the policy requires modification. Regardless, management should implement measures to ensure compliance with the inspection policy.

Management's Comment

The department concurs with this finding. Because the data reviewed by the Comptroller's Office were for the 2010 time period when WasteBin was implemented, the department believes the audit is not reflective of current performance. The department has evaluated a representative sample of data for 2011 and finds 90% compliance with implementation of WasteBin. A chart is attached demonstrating this improvement. The chart also demonstrates that the average number of days between inspections over the two-year period is 33 days. The department recognizes its performance needs improvement and will implement procedures to improve performance. This will be addressed in modification of the Compliance Monitoring Policy and Procedures, as described in the response to Finding 1 and subsequent training. [See Appendix 4 for detailed inspection information.]

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3. Negative response inspection forms provide inadequate information for oversight activities

Finding

Based on our review of Class I landfill inspections for calendar year 2010, current negative response inspection forms do not provide enough information for appropriate oversight of inspector activities.

The initial intent of auditors' review discussed in Findings 1 and 2 was not only to determine data reliability and inspection timeliness, but also to assess whether inspectors were inspecting landfills to ensure that landfills are being operated within the rules and regulations, and policies and procedures governing landfills. However, the current negative response

inspection forms prevented an assessment of this nature. Negative response forms require documentation only when there is a problem notation or violation. (See Appendix 3.) As such, the forms lacked information needed for auditor review of this area. Consequently, the same dilemma also exists for management.

Many of the inspections reviewed had notations at the bottom of the form that simply stated "No Violations" or some variation. There was no indication of what rules on the form were considered even though the Nashville Field Office Solid Waste Director stated that it is presumed that each inspector evaluates applicable standards during an inspection, so "no violations" means no applicable regulations were noted as being violated. However, auditors were unable to distinguish what rules were considered, which part of the landfill was inspected, how long inspectors were on site, etc. The negative response forms require notations only when the inspector cites a violation, which produces inadequate documentation of inspector activities and consequently does not allow for adequate supervision.

Recommendation

The division may want to consider modifying its forms and review process (as noted in Finding 1) to provide better documentation regarding what is reviewed during each landfill inspection and to better facilitate management's oversight of inspectors and assessment of the inspection process.

Management's Comment

The department concurs in part with this finding. The department believes the inspection forms that it currently uses for landfill inspections properly list the areas/items reviewed during the landfill inspection and can be effectively used to provide information such as area of landfill inspected, time of inspection, no violations found, etc. Given this, the department does not believe additional forms are needed. Also, the department can enter any comments on the landfill inspection form into the Note Field in WasteBin. This change in operation will ensure the information noted on the landfill inspection form is also in WasteBin. As stated in the department's response to Finding 1, the department will revise its Compliance Monitoring Policy and Procedures manual to require the information above. Our date to complete revision of the manual is July 1, 2012.

4. The department is still not meeting all the established minimum requirements for subcontract monitoring; in addition, the Division of Internal Audit failed to submit an accurate monitoring plan to the Department of Finance and Administration for fiscal year 2011 and did not adequately document the changes

Finding

Auditors' follow-up to the prior finding cited in the January 2010 performance audit report found that the Department of Environment and Conservation is still not monitoring the minimum number and dollar amounts of its subrecipient contracts as required by the Department of Finance and Administration. Furthermore, the Division of Internal Audit submitted an annual Policy 22 monitoring plan for fiscal year 2010-2011 that did not accurately reflect the correct total dollar amount or the correct number of contracts chosen in the sample population. However, in accordance with recommended actions listed in the prior audit, the department has developed formal, written policies and procedures regarding Policy 22; has instituted mechanisms for better and more efficient use of resources—including formal approval of contract selection by the Internal Audit Director; and has taken into consideration both risk-level and recency of review during annual, subcontract population sampling.

Failure to Meet Minimum Requirements for Subcontract Monitoring

In 2004, F&A implemented Policy 22, which created a decentralized and uniform contract monitoring approach for state agencies to attempt to ensure subrecipient compliance with state and/or federal programs, applicable laws and regulations, and stipulated results and outcomes. Policy 22 requires all state agencies that fund subrecipients to annually submit monitoring plans for F&A approval by October 1st. (A September 2011 Comptroller's audit, *Review of Tennessee's Contract Monitoring and Management Systems*, raised concerns that the state relies completely on management at the individual state entities to comply with Policy 22 and does not have an effective oversight mechanism to ensure that state entities are, in fact, complying with Policy 22.)

When choosing the population of contracts to be monitored each year, agencies must

1. annually monitor a minimum of one-third of the total number of all subrecipient contracts executed by their agency; and

2. ensure that the current-year maximum liability value of the contracts selected is equal to or greater than two-thirds of the aggregate current-year maximum liability value of the agency's entire subrecipient grant population.

The policy requires agencies such as the department to assess all subrecipients and assign a risk-level of high, medium, or low. While the scope of a review may vary based on the perceived risk to the state agency, it must include, at a minimum, the program-specific monitoring requirements as well as the applicable core monitoring areas outlined in the *Policy 22 Monitoring Manual*. Based on documentation contained in the department's annual monitoring plan, recurring low-risk grants would be monitored at minimum every three years, medium-risk grants would be monitored at minimum every two years, and high-risk grants would be monitored every year.

According to Policy 22, when choosing the population of contracts to be monitored, consideration should be given to contracts which

1. based on their state agency assigned risk assessment, pose a greater risk to the state (programmatically and/or financially);
2. have not recently been monitored; and
3. have prior review findings that indicate serious deficiencies.

For fiscal years 2010 and 2011, the division failed to review a third of the total number of subrecipient contracts as required by Policy 22—with only 38 reviews (12% of 306 total contracts for 2010) and 42 reviews (11% of 368 total contracts for 2011) completed, respectively. For fiscal year 2011, the division also failed to review the required two-thirds of the contract population's total dollar amount.

The Department of Environment and Conservation's Monitoring Plan for federal fiscal year October 1, 2009–September 30, 2010, contained a population of 306 subrecipient contractual relationships entered into by TDEC as determined by an evaluation of the guidelines contained in Policy 22. The aggregate maximum liability value of TDEC's entire subrecipient grant population based on the original contract amounts totaled $13,599,209. For the corresponding federal monitoring cycle, the Internal Audit Division of TDEC selected a sample containing 122 contracts/grants with an aggregate maximum liability of $9,375,919.

For federal fiscal year October 1, 2010–September 30, 2011, the department had a population of 368 subrecipient contractual relationships, with an aggregate maximum liability value totaling $112,001,702. The sample contained 124 contracts with an aggregate maximum liability of $106,273,245.

Federal Monitoring Cycle October 1, 2009–September 30, 2010

Reviews Required to Meet 1/3 of Total Contracts Requirement	Reviews Completed[3]	Dollar Amount of Contracts to Be Reviewed to Meet 2/3 of Total Value Requirement	Amount Reviewed
102	38	$9,070,672	$16,832,881

Federal Monitoring Cycle October 1, 2010–September 30, 2011

Reviews Required to Meet 1/3 of Total Contracts Requirement	Reviews Completed[4]	Dollar Amount of Contracts to Be Reviewed to Meet 2/3 of Total Value Requirement	Amount Reviewed
123	42	$74,705,135	$37,619,793

[3]FY 2009-2010 included 28 non-ARRA reviews totaling $9,937,081 and 10 ARRA reviews totaling $6,895,800.
[4] FY 2010-2011 included 29 non-ARRA reviews totaling $8,535,251and 13 ARRA reviews totaling $29,084,542.

Based on interviews and documentation obtained from TDEC's Internal Audit Division, the current staffing levels and the additional workload created by American Recovery and Reinvestment Act (ARRA) monitoring prevent full compliance with Policy 22 requirements. The division has two auditors who work exclusively on Policy 22/ARRA reviews and one who spends half of her time on Policy 22-related activities.

The division has also not been able to successfully implement all prior audit recommendations—including the delegation of monitoring duties to individual divisions and the reconciliation of audit activities to the appropriate monitoring sample lists. Management asked other divisions to help with monitoring activities but experienced resistance from other divisions that were reluctant to take on an increased workload. Also, the division's required usage of fiscal, federal, and calendar-year dates in audit work poses challenges for creating a records database that is fully reconcilable and that can link monitoring activities with the proper sample population. The division has, however, developed a grants management database that management believes will allow for electronic/online grant applications, correspondence, and document transmittal. While it does not currently have widespread usage, full implementation may give the division the ability to conduct more reviews.

Inaccurate Policy 22 Monitoring Plan

As directed by the Department of Finance and Administration's Policy 22 guidelines—pursuant to subcontract monitoring requirements—all state agencies affected by this policy must develop and submit an annual monitoring plan, for review and approval, to Finance and Administration's Division of Resource Development and Support, by October 1 of each year, beginning in 2004. The monitoring plan is a summary of the agency's planned monitoring cycle and must include the following components:

- the total subrecipient contract population,
- subrecipient contracts to be monitored during the current monitoring cycle,
- identification of the agency monitoring cycle (i.e., state fiscal year, federal fiscal year),
- sample monitoring guide(s) to be utilized for each state and/or federal program,
- full-time equivalents and personnel classifications for all staff dedicated to monitoring activities,
- a program description of each state and/or federal program being monitored,
- risk assignment for each subrecipient and its related contract(s),
- explanation of criteria used to assign risk to subrecipients and their related contract(s),
- summary of findings from the previous monitoring year, and
- explanation of the agency's corrective action process.

Policy guidelines state that any changes to the monitoring plan following approval by F&A should be documented by the agency and maintained with its approved plan. Changes to the population of contracts to be monitored should be particularly well documented with an explanation accompanying the changes made.

Based on interviews with Internal Audit Division management and auditor reviews of Policy 22 related documentation, the sampling information contained in the monitoring plan letter to F&A did not match the division's records. This deviation from the approved monitoring plan was not documented and was subsequently brought to management's attention after auditors' fieldwork and analysis. Management stated that the proliferation of ARRA contracts following the submission of the division's monitoring plan affected both the amount and value of the contract sample. Further discussion with management revealed a lack of continuity in the contract valuation methods the division uses to determine the correct dollar amount of contracts to monitor as required by Policy 22.

Recommendation

TDEC's Division of Internal Audit should continue to employ measures to improve the frequency and volume of completed Policy 22 reviews. Efforts leading to the successful delegation of monitoring activities to other divisions and widespread implementation of the online grant management database may also enhance the division's reviewing abilities and facilitate closer alignment with Policy 22 requirements.

The Division of Internal Audit should fully document and explain any related changes that are made to an approved Policy 22 monitoring plan. Furthermore, the division should develop and maintain consistent methods for determining yearly contract amounts as they pertain to sampling and contract selection. The division should work with the Department of Finance and Administration to identify any additional actions that could improve the integrity and accuracy of contract sampling and monitoring, thus creating closer alignment with Policy 22 guidelines.

The Commissioner of Environment and Conservation should evaluate the department's subrecipient monitoring activities and consider changes needed to ensure subrecipient contracts are monitored efficiently and effectively. Based on that review, the Commissioner should consult with the Commissioner of Finance and Administration and the state's Chief Procurement Officer regarding changes needed to improve the effectiveness of the subrecipient monitoring process.

Management's Comment

A. We concur that the department did not meet all the established minimum requirements for subcontract monitoring. Due to the department's large volume of subrecipient contracts, the

staffing constraints of the Internal Audit staff; and the additional responsibilities[5] assigned to the Internal Audit Division, it has not been possible for the department to comply with the minimum requirements for subcontract monitoring as set forth in F&A's Policy 22.

Policy 22 requires state agencies to annually monitor (A) a minimum of 1/3 of the total number of grant contracts in the subrecipient population and (B) 2/3 of the aggregate current year maximum liability value of the agency's entire subrecipient grant population. This criterion fluctuates from year to year depending on the total number of grant contracts executed by the department. For example, for the years ended 9/30/2008, 9/30/2009, 9/30/2010, and 9/30/2011, the total number of contracts in the subrecipient population equaled 736, 733, 306, and 368, respectively.

Currently the Division of Internal Audit (DIA) has two Auditor 2 positions dedicated full-time to Policy 22 subrecipients, ARRA subrecipients, and State Revolving Fund loan subrecipient monitoring activities. Also one-half of a position (Auditor 4) is spent supervising the Auditor 2 positions and reviewing the monitoring reports.

Using TDEC's total number of subrecipient contracts for the past four monitoring years, DIA would have required the following number of monitoring employees (see column [D]) to satisfy F&A's Policy 22 monitoring requirements:

(A) FYE	(B) Total # of subrecipient contracts	(C) 1/3 of total # of subrecipient contracts	(D) Additional # of employees required[6]
9/30/08	736	245	6
9/30/09	733	244	6
9/30/10	306	102	1
9/30/11	368	123	2

In conclusion, the Division of Internal Audit would need additional employees from one (FYE 9/30/10) to six (FYEs 9/30/08 and 9/30/09) in order to avoid a repeat audit finding in the next performance audit. Based on this analysis, the Commissioner will consult with the Commissioner of Finance and Administration and the state's Chief Procurement Officer regarding changes needed to improve the effectiveness of the subrecipient monitoring process.

Furthermore, TDEC's Division of Internal Audit will continue to employ measures to improve the frequency and volume of completed Policy 22 reviews to include exploring

[5] The Division of Internal Audit (DIA) currently has five auditors. It conducts investigations, compliance audits, special projects, financial audits, management reviews, and operational audits. Additionally, the DIA performs administrative duties for the department such as (1) acting as the liaison between TDEC and the Comptroller's Office; (2) acting as the liaison between the department and the Department of Finance and Administration regarding Policy 22; (3) participating on TDEC's Conflict of Interest Committee; (4) participating on TDEC's Forms Committee; and (5) analyzing and reporting of TDEC's lost or stolen property to the Comptroller's Office.

[6] Based on an analysis by DIA, an auditor should average a completion of 30 monitoring reviews per year. The number in column C is divided by 30 to calculate the gross number of monitoring employees needed; two employees (currently working on Policy 22) are subtracted from the gross number to arrive at the "Additional # of employees required."

ways to streamline the process to shorten the amount of time required for each review, obtaining assistance in performing some of the monitoring activities from program staff in the divisions, and widespread implementation of the online grant management database to enhance the division's reviewing abilities to facilitate closer alignment with Policy 22 requirements.

B. We concur that the Division of Internal Audit failed to submit an accurate monitoring plan to the Department of Finance and Administration for fiscal year 2011 and did not adequately document the changes.

DIA submitted the 2011 Policy 22 Monitoring Plan for the federal fiscal year ending September 30, 2011, to F&A on September 27, 2010. Subsequently, F&A requested DIA to add all ARRA subrecipients to Schedule A and Schedule B of the plan. These revised schedules were submitted to F&A in November of 2010.

On December 20, 2011, the 2011 monitoring plan was amended one more time to include an additional 20 non-ARRA SRF loan recipients to the total population in Schedule A. The revised 2011 Subrecipient Monitoring Plan has been adequately documented[7] in the DIA work paper file for review or audit.

In the future, DIA will strive to ensure that all subrecipients, ARRA subrecipients, and SRF loan recipients are included in the annual Policy 22 Monitoring Plans.

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5. Several environmental boards do not have signed conflict-of-interest forms from all of their current members; the department needs a policy mandating that environmental board members complete annual conflict-of-interest statements

Finding

The Department of Environment and Conservation (TDEC) lacks a written policy mandating annual disclosure by board members to acknowledge financial interests, other possible conflicts of interest, and general acknowledgement of any conflict-of-interest policies in place for each entity.

Three of TDEC's environmental boards reviewed have provisions in statute related to conflicts of interest, and one has provisions in rule, but no statute, rule, or policy exists requiring annual disclosures of conflicts of interest. The Petroleum Underground Storage Tank Board has provisions in Section 68-215-113(e), *Tennessee Code Annotated*, stating,

> No member of the board shall participate in making any decision on a case in which the municipality or firm, which that member represents, or by which the

[7] Per the Tennessee Subrecipient Contract Monitoring Manual (June 2004), any changes made to the monitoring plan following approval by F&A should be documented by the agency and maintained with the approved plan.

> member is employed, or in which that member has a direct substantial financial interest, is involved.

The Solid Waste Disposal Control Board has a provision in Section 68-211-111(i), *Tennessee Code Annotated*, stating,

> No member of the board shall participate in making any decision of a permit or upon a case in which the municipality, firm, or organization which the member represents, or by which the member is employed, or in which the member has a direct substantial financial interest, is involved.

The Water Quality Control Board has the most extensive requirement, stating in Section 69-3-104(b) that

> The state shall ensure that those members of the board who do not receive, or during the previous two (2) years have not received, a significant portion of their income directly or indirectly from permit holders or applicants for a permit shall hear all appeals on permit matters…For the purposes of this section, "significant portion of their income" means ten percent (10%) of gross personal income for a calendar year, except that it means fifty percent (50%) of gross personal income for a calendar year if the recipient is over sixty (60) years of age and is receiving such portion pursuant to retirement, pension, or similar arrangement.

In Air Pollution Control Board Rule 1200-3-17-.02, a conflict of interest is defined as occurring "…when a Board member or the Technical Secretary takes an action in the performance of their duties that singularly benefits a source when the Board member or the Technical Secretary has a significant portion of their personal income derived from the operations of said source." Furthermore, the rule stipulates that before the issuance of a permit, variance, or an enforcement order requiring board action, the member must declare any conflict of interest and must abstain from voting on the matter.

Conflicts of interest have long been an issue in public-sector service. Former Governor Phil Bredesen issued Executive Order Number 3 related to annual disclosures, and most recently Governor Haslam issued Executive Order Number 1 requiring certain members of his cabinet to annually disclose certain statutorily required information upon appointment to an office.

A review of the six environmental boards covered in this audit found that only the Ground Water Management Board has conflict-of-interest forms from current board members signed in 2011. The Petroleum Underground Storage Tank Board has eight signed forms: one signed in 2005 and seven in 2011, with one vacancy filled on August 19, 2011, that occurred after our review of meeting minutes. The Solid Waste Disposal Control Board has 11 signed forms: one signed in 2005, three in 2006, one in 2007, three in 2008, one in 2009, and two in 2010. The Water Quality Control Board has four signed forms: one signed in 2005, one in 2006, one in 2007, and one in 2008. The Air Pollution Control Board has six signed forms: five signed in 2005 and one in 2007. The Compliance Advisory Panel still lacks all the member

appointments needed to be fully functional (see Finding 6), and therefore has not yet had members complete forms. Overall, the majority of forms in current board member files are three to six years old. (See Table 10.)

Table 10
Environmental Boards
Board Member Conflict-of-Interest Form Summary
As of July 2011

Board	Total Members Required by Statute	Signed Conflict-of-Interest Forms							Members Missing Signed Forms	Vacant Positions
		2005	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*		
Ground Water Management Board	5	0	0	0	0	0	0	5	0	0
Petroleum Underground Storage Tank Board*	9	1	0	0	0	0	0	7	0	1**
Solid Waste Disposal Control Board*	11	1	3	1	3	1	2	0	0	0
Water Quality Control Board*	10	1	1	1	1	0	0	0	6	0
Air Pollution Control Board*	14	5	0	1	0	0	0	0	8	0
Compliance Advisory Panel	7	0	0	0	0	0	0	0	5	2

* Has requirement in statute or rule regarding conflict of interest.
** Vacancy was filled as of August 19, 2011, after we had completed our reviews of meeting minutes and member attendance. The new member has completed a conflict-of-interest form.

According to the department's General Counsel, board members also receive annual training and/or training documentation regarding conflicts of interest, but there is no requirement that members acknowledge they understand their responsibilities.

There is an inherent risk of conflicts of interest because state law dictates that many board members represent special interest groups. Requiring annual signed disclosures not only causes board member acknowledgement of these inherent conflicts and facilitates an understanding of the department's policy but also alerts department personnel involved with board proceedings of any potential conflicts to help ensure board members recuse themselves as necessary.

Recommendation

The department should develop and implement a written policy mandating annual conflict-of-interest disclosure and prompt updates whenever new conflicts arise, especially in those instances when state law requires abstention when certain financial interests exist. The policy should also provide for a mechanism to regularly review forms to ensure they are up-to-date. This will not only ensure that board members acknowledge the policy but also make staff aware of board member interests, thereby aiding in identification of conflicts as they arise. We also recommend the department develop and implement a written policy requiring all board members to complete a signed conflict-of-interest form upon appointment and that all board members complete orientation and training currently offered by the department.

Management's Comment

The department concurs in part. The department agrees that all persons serving on environmental boards should be fully informed of all statutory and regulatory provisions concerning conflicts of interest. As noted in the audit findings, board members are currently offered annual training that includes information about applicable statutory and regulatory conflict-of-interest provisions. The department has also worked with each board to develop a conflict-of-interest policy statement. As suggested, the department will develop and implement a written policy to annually request that each board member (current and new) review conflict-of-interest policy statements. The department will also request that each board member acknowledge that they have been given copies of these policy statements and that they have been given information about applicable laws and regulations concerning conflicts of interest. The department does not have the legal authority to require board members to sign acknowledgements or other disclosure statements. However, the department is not aware of any board member ever refusing when so requested.

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6. The Compliance Advisory Panel, first required by federal law in 1995, was finally established in 2009 but still has not held a meeting other than one informational meeting via conference call in December 2010, at which no voting took place; and the panel still lacked two member appointments as of November 2011

Finding

Pursuant to Title V, Section 507, of the federal Clean Air Act Amendments of 1990, the department was to establish a Compliance Advisory Panel as part of Tennessee's revised State Implementation Plan effective July 1995. The panel, to be established as part of the state's Small Business Environmental Assistance Program, has the following responsibilities:

- to render advisory opinions about the technical assistance program, difficulties encountered, and the degree and severity of enforcement;

- to make periodic reports to the EPA Administrator about the state program's compliance with the Paperwork Reduction Act, the Regulatory Flexibility Act, and the Equal Access to Justice Act; and

- to review information provided to small business sources to ensure the information is understandable by the layperson.

The 2005 performance audit found the department had not established the federally mandated Compliance Advisory Panel (CAP). The January 2010 performance audit found that the Compliance Advisory Panel had been established but lacked four member appointments. As of November 2011, the Compliance Advisory Panel still lacks two of the federally required seven members.

The federal Clean Air Act requires the CAP to have not less than seven members with the following appointments:

- two appointments by the Governor of non-business owners/representatives;
- two appointments by the State Senate (one each by majority and minority leadership) of small business owners/representatives;
- two appointments by the State House of Representatives (one each by majority and minority leadership) of small business owners/representatives; and
- one appointment by the Commissioner of Environment and Conservation.

Through a review of the CAP website and information provided by department staff, we found that the panel still lacks two member appointments—one each from the Senate Majority Leader and House Democratic Leader. Although the CAP is not fully formed, a meeting was held on December 15, 2010, via conference call. The meeting was informational and no voting took place. Department staff stated during the meeting that efforts were being made to complete panel appointments.

Recommendation

The Compliance Advisory Panel should promptly meet and begin conducting the business that the panel is responsible for performing. The department should continue efforts to obtain panel appointments from the appropriate legislative appointing authorities, in order to complete the Compliance Advisory Panel, comply with federal law, and enable the panel to carry out its responsibilities.

Management's Comment

We concur. We will continue our efforts in working with the legislative appointing authorities to complete the appointments to the panel. Upon the completion of the legislative appointments and meeting the federal requirement of having not less than seven members, a meeting will be called. We will send a letter to the two remaining legislative appointing authorities requesting their appointments be made so the panel can be complete.

OBSERVATIONS AND COMMENTS

The topics discussed below did not warrant a finding but are included in this report because of their effect on the operations of the Department of Environment and Conservation and on the citizens of Tennessee.

The Department Has a Monitoring and Reporting System in Place to Oversee Solid Waste Reduction Efforts; While the State Has Consistently Met Solid Waste Reduction Goals, Some Counties/Regions Have Failed to Comply With the Mandate

Auditors analyzed departmental compliance with the 25% waste reduction mandate specified in the Solid Waste Management Act of 1991. Based on our review, it appears that the department is adequately monitoring waste reduction across the state. The majority of counties/regions—as well as the state as a whole—is meeting the required 25% waste reduction mandate. While some counties/regions have failed to meet the requirement, the department has conducted assessments with those counties to improve their reduction efforts. Subsequent audit fieldwork entailed a review of data accuracy and reporting methods, the methodologies employed for calculating waste reduction, and an overview of the department's qualitative assessment process—designed to help failing counties comply with the waste reduction requirement. Along with interviews with division staff and management, departmental data compiled from the submission of county and regional Annual Progress Reports—detailing solid waste disposal, diversion, and reduction measures—were used to determine the effectiveness and efficiency of the division's waste reduction efforts. Our review did raise questions about the accuracy of landfill scales used to weigh trucks bringing in waste, and at least one reporting error in the Annual Progress Reports was documented, prompting concerns about data accuracy and measurement techniques employed by the department.

Related Legislation

The Solid Waste Management Act of 1991 requires that the Department of Environment and Conservation prepare and submit an annual report on Tennessee's Solid Waste Management System to the Governor and General Assembly, as directed by Section 68-211-873, *Tennessee Code Annotated.* The Act was amended in 1999, establishing December 31, 2003, as the date for

Municipal Solid Waste Planning Regions (solid waste planning entities) to meet the 25% per capita (by weight) reduction and diversion goal for municipal solid waste disposed in Class I landfills or incinerators. The 1999 amendment established 1995 as the new base year (Solid Waste Management Act, Solid Waste Reduction & Diversion Goal, 1991). Each region that did not meet the December 31, 2003, deadline was required to have its solid waste program qualitatively assessed to determine if a "good faith" effort was made toward achieving the goal. Rules specifying the methodology to be used for the qualitative assessment of regional solid waste programs were fully promulgated August 6, 2006. The first qualitative assessments were completed in the winter of FY 2008-09.

Amendments to the Act in 2007 deleted the December 31, 2003, deadline for meeting the 25% waste reduction and diversion goal, making it an ongoing goal. These amendments also

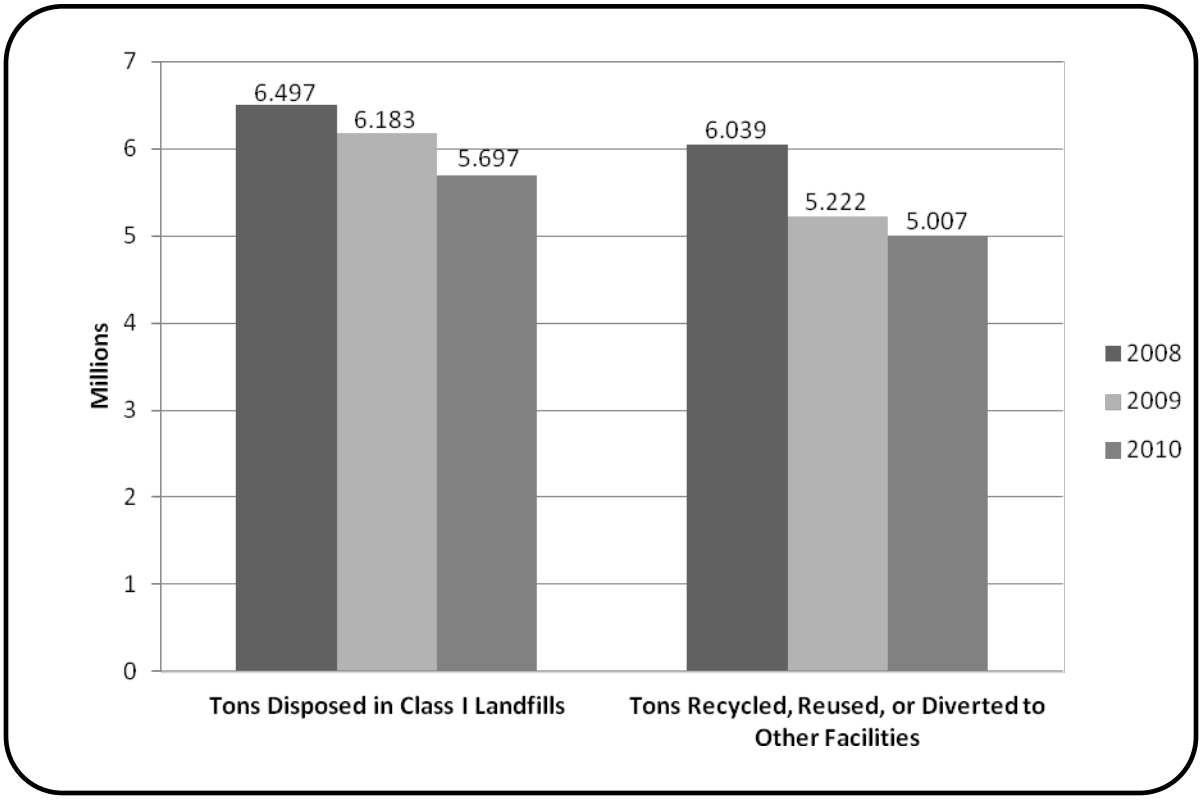
- added a requirement for the regional solid waste plans to include a management plan for disaster debris;
- clarified sanctions for noncompliance with submittals of regional solid waste plans and updates;
- added language allowing TDEC to award grants for permanent household hazardous waste collection sites to municipalities or counties with large populations or high participation at the mobile events;
- added language that provides grants to counties or municipalities that own and previously operated old closed landfills without composite liners that are causing harm to the environment through ground water contamination;
- allowed for the Solid Waste Management Fund to be used for proper disposal of hazardous waste from K-12 schools;
- increased the tipping-fee surcharge; and
- allowed for a thorough review of the waste reduction and diversion goal to consider incentives and disincentives to promote recycling and waste reduction.

According to the *Annual Report to the Governor and General Assembly on the Solid Waste Management Act of 1991* for FY 2009-2010, there were 35 operating, permitted Class I (sanitary) landfills in Tennessee (19 of which were publicly owned) at the end of FY 2009-10. There were 67 operating, permitted Class III and IV (construction and demolition) landfills.

Data Collection

The counties and regions across the state self-report solid waste collection and disposal statistics every year on March 31st using Re-Trac—an Internet-based reporting system. The data are submitted in the form of an Annual Progress Report, which details landfill waste estimates. See Exhibit 1 below. The report also includes departmental performance data measuring electronic scrap recycling. The department tracks the collection and recycling of electronic devices such as personal computers, monitors, keyboards, televisions, printers, and cell phones in an effort to meet the ongoing 10% increase in annual electronic waste collection as mandated by a departmental performance standard. Stemming from the Solid Waste Management Act of 1991, counties were required in 2003 to have reached a 25% reduction in landfill waste based on their 1995 estimates.

Exhibit 1
Statewide Reported Solid Waste Collection and Disposal Statistics
Calendar Years 2008-10



Source: TDEC, Annual Progress Reports.

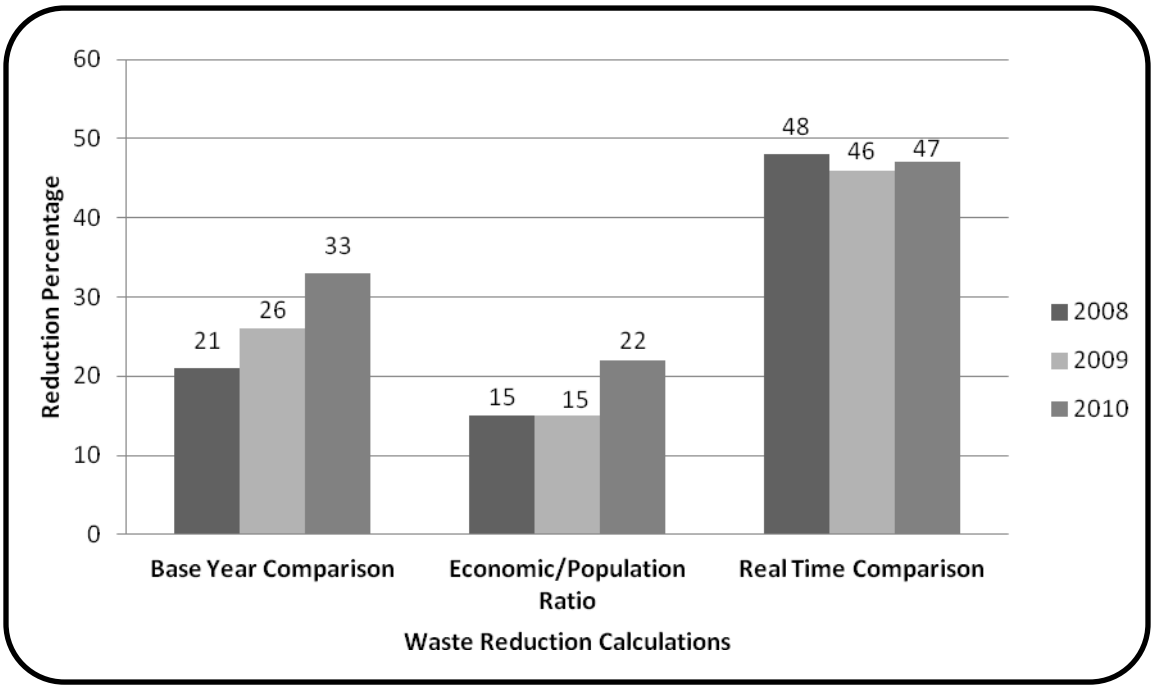
However, in 1995, some counties did not use scales in their landfills, and volume estimates of weight served as the baseline number for comparison, according to Solid and Hazardous Waste Management Division staff. Consequently, it became obvious that many landfill operations had either grossly underestimated or overestimated landfill weight volumes. This meant that some landfills would not have to make any reductions in order to meet the 2003 25% reduction deadline, while others would have to initiate much larger reductions in order to meet the goal.

Along with the baseline option for landfill waste estimation, the "real time" method determines the waste reduction percentage by dividing the Class I disposal numbers by the total generation (Class I disposal plus recycling and other diversion) numbers for a given year. Because the real time method does not consider base year, population, or economics in its computation, it sometimes can be helpful to a region where base year numbers may be in question. This option is based on reported totals from all Class I, II, III, and IV landfills which result in a "generation number." The generation number is then the basis for the 25% waste reduction. The real time comparison is derived by adding all Class I disposal with Class III and IV disposal, then adding any recycling data by county along with any available information from private entities; the grand total represents the generation number. The generation number is then compared to the current-year disposal—which is all Class I waste—and the amount of reduction

between the generation number and current-year disposal represents the real time comparison (the percent of waste reduction).

Following the creation of the Solid Waste Management Act's waste reduction goal, there was concern that a rigidly defined goal that did not take into account population and economic changes would hinder economic growth. As an alternative to calculating solid waste reduction and diversion, regions have the additional option of computing their goal with an economic growth method that utilizes a population economic ratio. This method is prescribed by the department and has been approved by the Municipal Solid Waste Advisory Committee. A region may find it advantageous to use the economic growth method if there has been considerable fluctuation in its population or economic conditions. This measure is based on a region's economic information that is obtained from the University of Tennessee's Center for Business and Economic Research, which contains employment, taxable sales, a consumer price index, and population estimates provided by the U.S. Census Bureau. See Exhibit 2 below for reduction percentages using the three different methods.

Exhibit 2
Statewide Waste Reduction
Methodology Comparison
2008-10



Source: TDEC, Annual Progress Reports.

Data Accuracy

Truck scales are located at all operational Class I landfills and are used for measuring the amount of solid waste disposal at each facility. A checklist on the department's current solid waste inspection form does include an assessment of whether scales located at solid waste landfills are operational. However, the *Solid Waste Enforcement Policy and Guidance Manual* (Updated November 2010) does not mandate checking for scale accuracy and proper certification. Furthermore, inspectors are not involved in either the oversight or collection of data for the 25% waste reduction goal—that responsibility is solely managed by Solid and Hazardous Waste Management Division staff in the department's central office.

Pursuant to Section 47-26-908, *Tennessee Code Annotated*, the Department of Agriculture is responsible for assuring that weights and measures in commercial service within the state are suitable for their intended use, properly installed, and accurate, and are so maintained by their owner or user. Auditors contacted the Department of Agriculture's Division of Weights and Measures and sent a listing of the 34 active Class I landfills. The division director confirmed that the Department of Agriculture does certify scales at such facilities but stated that the division had no record of scale certification for 2 of the 34 facilities.

Qualitative Assessments

For counties and regions that fail to meet the 25% reduction goal by not reaching the required threshold as measured through either the base year comparison, the real time reduction method, or the economic population ratio—a qualitative assessment is ordered. If the region as a whole makes the goal, individual counties in that region are not assessed even if they failed to make the real time method of the goal. If a single county of a multi-county region makes the real time goal, it is not assessed with the others that failed. See Table 11 below for a listing of counties/regions that were out of compliance.

The first step in noncompliance is for staff to qualitatively assess the solid waste region's efforts against comparable regions. This qualitative assessment method, prescribed by the department and approved by the Municipal Solid Waste Advisory Committee, was promulgated as a rule in accordance with the provisions of the Uniform Administrative Procedures Act, compiled in Title 4, Chapter 5. The qualitative assessment includes an analysis of solid waste and waste reduction facilities and staffing, funding commitments, and equipment available for collection and processing. Deficient counties are compared to two other counties that are most similar to the problematic county. If the review demonstrates that the county is performing similarly to the two comparable counties, then the county is deemed qualitatively equivalent. According to Solid and Hazardous Waste Management staff, the division recently had a backlog of qualitative assessments, but as of October 2011, the division is completely caught up. See Table 12 for a listing of finalized qualitative assessments performed.

Counties that do not perform as well as their comparison counties are given recommendations and a plan of action to improve waste reduction. If the region is deemed to have not made a "good faith effort," then the Division of Solid and Hazardous Waste Management issues a report that includes directives and recommendations for improvement. Additionally, if a county or region has had a very recent assessment—and is found not to have met the reduction goal—other assessments are delayed until there has been sufficient time allowed for improvement. Pursuant to the Solid Waste Management Act, Sections 68-211-861 and 68-211-816, the division may impose sanctions if the county or region fails to act on the directives and recommendations spelled out in the qualitative assessment.

The department should continue to monitor county/regional waste reduction efforts and take steps to ensure the accuracy and integrity of solid waste disposal and diversion measurements—including the calculation methodologies employed to make compliance determinations. The department should develop guidelines and certify the accuracy of scales used at Class I landfills on at least an annual basis. Furthermore, the department should include certifying the accuracy of scales—not just making sure that they work—on the inspection forms for Class I landfills. Additional efforts should be undertaken to assist consistently failing counties and regions in improving waste reduction as well as compliance with waste reduction requirements.

Table 11
Statewide 25% Waste Reduction Goal Noncompliance (Real Time Method)
2008-2010

Region	*County*	*2008*	*2009*	*2010*	*Qualitative Assessment*
Anderson	Anderson	21%	-	-	2010
Central		-	-	-	No
	Cannon	-	-	10%	No
	Coffee	22%	-	16%	No
	Warren	18%	22%	-	No
Decatur	Decatur	17%	17%	5%	2010
Fentress*	Fentress	-	-	-	2011
Hancock	Hancock	2%	11%	0%	2011
Inter-local		-	-	-	No
	Giles	17%	-	9%	No
	Lincoln	-	20%	-	No
Jackson	Jackson	-	5%	-	2011
Marshall-Maury		-	-	-	No
	Marshall	17%	-	-	No
	Maury	-	19%	-	No
M-R-S		-	-	-	No
	Stewart	-	23%	-	No
Northeast		18%	-	15%	2011
	Carter	19%	25%	21%	2011
	Johnson	-	4%	3%	2011
	Unicoi	16%	6%	9%	2011
	Washington	14%	-	15%	2011
Overton	Overton	14%	-	-	2010
Scott	Scott	-	21%	-	2009,2011
Southeast		-	-	-	No
	Bledsoe	3%	3%	6%	No
	Grundy	8%	5%	5%	No
	Meigs	9%	4%	3%	No
	Polk	5%	5%	8%	No
	Rhea	17%	14%	24%	No
	Sequatchie	-	18%	-	No

* The department originally believed Fentress County was out of compliance because of erroneous Class I disposal information contained in the Annual Progress Report. During the course of the assessment, department staff discovered these errors but completed the assessment anyway.

Table 12
Finalized Qualitative Assessments 2008-2011

County/Region	*Noncompliance*	*Finalized*
Campbell	2006	2008
Clay	2006	2008
Morgan	2006	2008
Perry	2006	2008
Scott	2006, 2009	2009, 2011
Hancock	2007	2011
Van Buren	2007	2010
Northeast*	2007	2011
Anderson	2008	2010
Decatur	2008	2010
Overton	2008	2010
Fentress	2009	2011
Jackson	2009	2011

*Multi-county region

Management's Response

Scales at Class I solid waste landfills are tested by the Department of Agriculture's Weights and Measures Division. When scales are found to be out of calibration, the landfill is required to recalibrate the scales and then the Weights and Measures Division certifies scale accuracy. Department staff members perform comparative analysis of solid waste data provided by local governments in their Annual Solid Waste Progress Reports. The department reviews the reports for any anomalies in disposal, recycling, and waste reduction activities. Disposal data are verified against the Origin Reports prepared and submitted by the reporting Class I landfills. As part of the revision of the Compliance Monitoring Policy and Procedures, the department will include, in the records review section, information regarding scale certification.

Update on Inspection of Closed Landfills

In the 2005 performance audit, there was a finding that the Solid and Hazardous Waste Management Division had limited information on old landfills that were closed before permitting regulations were enacted, and many landfills that were closed after permitting began had not been inspected since 1998. In a 2009 update, the division stated that the majority of the sites had been revisited since 2003. At that time, the division was focused on the 64 Class I landfill sites that did not have dedicated ground water monitoring systems in place. Of the 64, vicinity drinking water surveys had been performed for 15 sites, including well water and spring sampling. At the time of the update, 10 sources had been sampled around four sites, with no contamination discovered. Twelve additional sites from the original 64 had been chosen for the same procedure.

In August 2011, auditors contacted the division for a current update on landfill inspections. The division had to suspend the closed site revisitation program during most of 2009 and 2010 because of the coal ash spill at the TVA Kingston Fossil Plant in Roane County in December 2008. The resulting damage required the division to refocus its staff and resources on monitoring clean-up measures and performing environmental assessments. In 2011, the closed landfill revisitation program evaluated 5 of the aforementioned 12 sites (see Table 13), and the program plans to visit the remaining 7 sites in the fall and winter of 2011/2012 (see Table 14).

Table 13
Listing of Old Landfill Sites Visited
2011

County	Site	Status
Greene	Greeneville City Landfill	Possibly two monitoring wells at site, but could have been destroyed by mowing. Appears that all residents are part of a water utility district.
Hawkins	Hawkins (Persia) County Landfill	Most of the site could be on unpermitted property with one, possibly more, methane vents at location. One residence with a well that could possibly be sampled. Areas of standing water were viewed to have bubbles, but could not determine if it was a result of methane gas from the landfill or sediment organisms.
Obion	Jim Gray Landfill	Every resident contacted appears to be part of a water utility district.
Obion	Union City Landfill	Much of the property on which the closed landfill is located is used as a dumping ground for brush and other materials; however the closed landfill area is a small area on the property and is not affected by this operation. Surface water is more likely to be impacted by current land use activity rather than the old closed landfill.
Sumner	Hendersonville Landfill	Areas of standing water, but no leachate observed. Entire area surrounding the site appears to be part of one or two water utility districts with no residences found that had water supplied from a private well.

The above sites were evaluated using the same criteria as in earlier inspections, such as site visits/walkover assessments, water use surveys of local residents, and canvassing of surrounding land use. Water testing can be done if determined necessary. According to the Solid Waste Environmental Protection Specialist in the Solid Waste Management Program's Technical Section, wells in Hawkins and Obion counties were not tested because, in Hawkins County, the well near the landfill was not being used as a source of drinking water and, for Obion County, it was determined that the nearest well was a distance away from the landfill, not subject to conduit flow, and with a creek between the landfill and the well itself.

Table 14
Anticipated Site Visit Schedule
Fall/Winter 2011-12

County	Facility Name
Anderson	Oak Ridge Landfill
Cumberland	Cumberland County Landfill
Hamilton	Red Bank City Landfill
Haywood	Brownsville City Landfill
Lawrence	Lawrenceburg Landfill
Monroe	Madisonville City Landfill
Wayne	Wayne County Landfill

Effective July 1, 2007, there is a grant program to provide financial assistance to cities and counties with ongoing expenses related to closed landfills. The enacting legislation included a 10-cent increase in the tipping-fee surcharge, which was projected to generate $1 million annually, in order to fund the program. For fiscal year 2012, $300,000 is available, but only to counties or municipalities whose closed Class I landfill does not have a composite liner system and has been determined by the department to be causing harm to health or the environment through contamination of ground water. A 50 percent match is required of participating counties and municipalities. Eligibility is based on inspections completed on the old closed landfills and prioritized by the Solid Waste Environmental Field Offices. Based on these inspections and prioritizations, the department then solicits grant participants by sending information such as grant criteria, legislation, and applications. According to program staff, in 2011 three sites were identified and solicited—McKenzie, Dickson County, and Overton County. Only Overton County applied for the grant funding; the county has received approval for a matching grant for improvement to its site's final cap to decrease infiltration of surface waters through the waste mass and into the underlying ground water. For fiscal year 2012, Lewisburg was determined to be a top priority because contamination was identified in domestic water wells. Lewisburg is preparing a grant request for matching funding to run residential water lines to homes in Marshall County that may have been affected by the old Lewisburg landfill.

The Underground Storage Tank Division Has Met Environmental Protection Agency (EPA) Inspection Requirements and Has Addressed Recommendations From the Prior Audit

The January 2010 performance audit found that the division was on schedule to meet EPA-required on-site inspections to be completed by August 2010, and that the division was in the process of developing a policies and procedures manual. During the current audit, auditors followed up to determine the status of these issues. We verified compliance with EPA inspection requirements for underground storage tanks in both the 2010 and 2011 audits by reviewing a sample of documented inspections scheduled to fall within the first three-year inspection cycle ending in August 2010. Based on evidence gathered from the previous and current audits, the division has demonstrated compliance with EPA inspection guidelines. In addition, the division has drafted a policies and procedures manual.

Related Legislation and Requirements

The Energy Policy Act of 2005 amended Subtitle I of the Solid Waste Disposal Act and created legislation that significantly affects state and federal underground storage tank (UST) programs. The UST provisions of the Energy Policy Act focus on preventing environmental releases and direct the EPA to help states comply with UST requirements. Section 1523 of the Act specifies that the EPA or a state receiving funding under Subtitle I will conduct on-site inspections to determine compliance within two years for all tanks not inspected since December 22, 1998. After completion of these inspections, the EPA or a state receiving funding under Subtitle I was to conduct an on-site inspection of each underground storage tank regulated under Subtitle I at least once every three years. The deadline to complete the first three-year inspection cycle was August 8, 2010.

Section 68-215-102, *Tennessee Code Annotated*, states that the intent of the Tennessee Petroleum Underground Storage Tank Act is to protect the public health, safety, and welfare; prevent degradation of the environment; conserve natural resources; and provide a coordinated statewide underground storage tank program. It is the public policy of Tennessee to regulate underground storage tanks and to

- provide safe storage for petroleum products;
- provide a coordinated statewide program for petroleum products stored in underground storage tanks in cooperation with federal, state, and local agencies responsible for the prevention, control, or abatement of air, water, and land pollution such that adequate control is achieved without unnecessary duplication of regulatory programs;
- develop long-range plans for adequate petroleum underground storage tank systems to meet future demands;
- provide a mechanism for the remediation of environmental pollution due to releases from petroleum underground storage tank systems; and

- provide a comprehensive investigation and clean-up fund to address the problems caused by releases from petroleum underground storage tanks, including remediation of imminent and substantial threats to public health and/or the environment, and to provide a mechanism to assist the financial responsibility requirements for owners/operators of petroleum underground storage tanks.

The Division of Underground Storage Tanks requires that tank owners, buyers, and sellers notify the state at different stages throughout the life of the tank—including tank installation, closure, and upgrades—as well as changes in ownership, mailing address, and tank status. Notifications of changes are required within 30 days of the change, and notification of pre-installation is required 15 days prior to beginning installation. The division provides compliance, financial, and technical guidance documents on a multitude of activities and regulations, including

- threshold limits;
- inventory control and statistical inventory reconciliation (SIR);
- manual or automatic tank gauging;
- ground water, vapor, and interstitial monitoring;
- requirements for corrosion protection;
- pressurized or suction piping;
- tank and line tightness testing; and
- spill and overfill protection.

Section 68-215-106(c), *Tennessee Code Annotated*, grants the division authority to issue violations and to take punitive actions for noncompliance when necessary. The division may affix red tags to each fill port for all underground storage tanks at a facility for failure to pay annual tank fees and associated late penalties, as well as for violations that result in a final order and civil penalties. The removal of these tags is a Class C misdemeanor. The federal Energy Policy Act of 2005 requires states receiving federal funding to have a delivery prohibition program. Consequently, red-tagged tanks are listed for delivery prohibition—and to further enhance communication with petroleum distributors—the division maintains a public listing of all delivery-prohibited sites on its website.

Underground Storage Tank Inspections

Auditors verified compliance with inspection requirements specified in the Energy Policy Act of 2005, based on interviews and documentation obtained from division management. Management stated that the division has successfully conducted onsite inspections of all underground storage tanks installed before, or that had not received an inspection since, December 22, 1998. Auditors randomly selected 30 files containing inspections performed by the Nashville Environmental Field Office and determined that the obtained inspection list

demonstrated data reliability. Along with audit work performed for the 2010 audit, the accuracy and data reliability of inspection records support that the division has performed all required tank inspections for the first three-year inspection cycle ending on August 8, 2010. All inspections performed after the first deadline are now considered to be part of the second three-year cycle.

Policies and Procedures

The previous audit identified that the division did not have formal policies and procedures in place and that the division was working from correspondence memos created and distributed by the director for guidance. In 2009, the division organized a Standardized Inspection Committee, which began work on creating an inspection manual and developing policies and procedures. A completed draft version of the manual was put out for public comment in April 2011 and is currently available online via the department's website. The department also sent letters to tank owners, service providers, and board members for feedback. The cutoff date was in June 2011, and the comments are now being discussed by the Standardized Inspection Committee. The draft *Standardized Inspection Manual* contains information on equipment use and function, detailed inspection guidance, and instructive photographs, and is intended for use by division staff as well as the regulated community. The 215-page manual is organized as follows:

- Preparing for an Operational Compliance Inspection
- Acceptable Records Document Policy
- Standardized Operational Compliance Inspection
- CGD – 103 Manual Tank Gauging
- CGD – 104 Automatic Tank Gauging
- CGD – 107 Statistical Inventory Reconciliation
- CGD – 108 Secondary Containment & Interstitial Monitoring
- CGD – 109 Corrosion Protection
- CGD – 110 Pressurized Piping
- CGD – 111 Suction Piping
- CGD – 112 Tank Tightness Testing
- CGD – 113 Spill and Overfill Prevention
- Addendum – Atypical UST Systems

Workload Distribution

As of December 2011, the division employed 23.5 FTE inspectors based on the department's workload analysis. These inspectors are distributed as follows:

Field Office	Inspectors (FTE)
Johnson City	1.5
Knoxville	4
Chattanooga	2
Cookeville	3
Nashville	6
Columbia	2
Jackson	2
Memphis	3

The division's Statewide Comprehensive Inspection Plan projected 214 UST inspections per month in 2009-2010 and 181.5 inspections per month for 2010-2011. Management identified inspector vacancies—resulting from promotions and departures—as a primary factor in making monthly inspection projections. As can be seen in Tables 15 and 16 below, the Nashville Field Office in particular had trouble meeting inspection projections, reportedly because of multiple vacant positions. Management also stated that the field office coordinator creates quarterly and annual reports that monitor progress toward inspection goals. The division conducts inspections on the basis of a two-year cycle in order to more readily meet EPA requirements ahead of the three-year inspection deadline.

Table 15
2009-2010 Statewide Underground Storage Tank Inspections

Field Office	Performed	Committed	Difference
Johnson City	321	363	-42
Knoxville	724	600	+124
Chattanooga	380	378	+2
Cookeville	409	246	+163
Nashville	400	633.9	-233.9
Columbia	276	217	+59
Jackson	373	360	+13
Memphis	393	348	+45
TOTAL	**3276**	**3145.9**	**+130.1**

Table 16
2010-2011 Statewide Underground Storage Tank Inspections

Field Office	Performed	Committed	Difference
Johnson City	402	363	+39
Knoxville	627	600	+27
Chattanooga	399	384	+15
Cookeville	306	246	+60
Nashville	267	306	-39
Columbia	258	223	+35
Jackson	362	360	+2
Memphis	378	348	+30
TOTAL	**2999**	**2830**	**+169**

Staff Reductions in the Ground Water Protection Division Resulting From a Decline in New Construction Permit Revenue Could Adversely Affect Response Timeliness When Construction Permitting Increases

During planning interviews and reviews of documents, we determined that the Ground Water Protection Division experienced a significant loss of staff while other divisions remained at previous levels. Our review found that most of the revenue generated for the Division of Ground Water Protection originates from fee collection, with the majority coming from permits for new home construction. As a result of the drastic decline in new home permits, approximately half of the Ground Water Protection staff members were eliminated, and it appears that current staff members now have more responsibilities and an increased workload, such as increased population served and additional travel.

We also determined that this is the only regulatory division lacking a mechanism for enforcing violations through civil penalties. Rather, cases are turned over to the district attorneys general to be argued in court.

The Division of Ground Water Protection's fundamental responsibilities are defined by statute. (See Table 17 for a summary of the division's responsibilities and Table 18 for the fee structure for services the division provides.) Requirements of Section 68-221-401, *Tennessee Code Annotated*, pertain to locating, constructing, and maintaining subsurface sewage disposal systems so that they

- do not contaminate any drinking water supply;
- are not accessible to rodents, insects, or other potential carriers of disease;
- do not pollute or contaminate surface or ground water;
- are not a health hazard by being accessible to the general public;
- do not cause a nuisance due to odor or unsightly appearance; and

- will not violate any other laws or regulations governing water pollution or sewage disposal.

Subsurface sewage disposal systems are the statutory and regulatory mechanism for managing wastewater in the absence of public sewers. The construction of any wastewater-generating structure in areas not served by public sewer is dependent on the soil resources available to the property and the ability of the division's staff to effectively permit a system to utilize the soils. The goal is that systems designed and permitted by staff will treat, manage, and ultimately return water to the environment in a manner that is not offensive, does not threaten public health, and has minimal impact on the environment. Since 2001, staff has issued over 168,000 permits for the construction of new subsurface sewage disposal systems.

Pursuant to Section 68-203-104(d)(2), environmental protection fees can constitute no more than 71% of the funds expended by the division. In fiscal year 2011, 85% of the fees collected were directly associated with permitting systems in support of new home construction. New home construction permits have dropped by 68% over the last five years, thereby severely reducing the primary revenue source.

In regard to staffing, the division has performed detailed workload analyses over the past decade. An activity reporting system has been developed and serves as a database, which was observed by auditors, that is reflective of an employee-by-employee, month-to-month, county-by-county, region-by-region workload. Auditors applied the following numbers and percentages in this report based on information provided by the division from this database, but these data are unaudited.

Table 17
Division of Ground Water Protection
Summary of Responsibilities

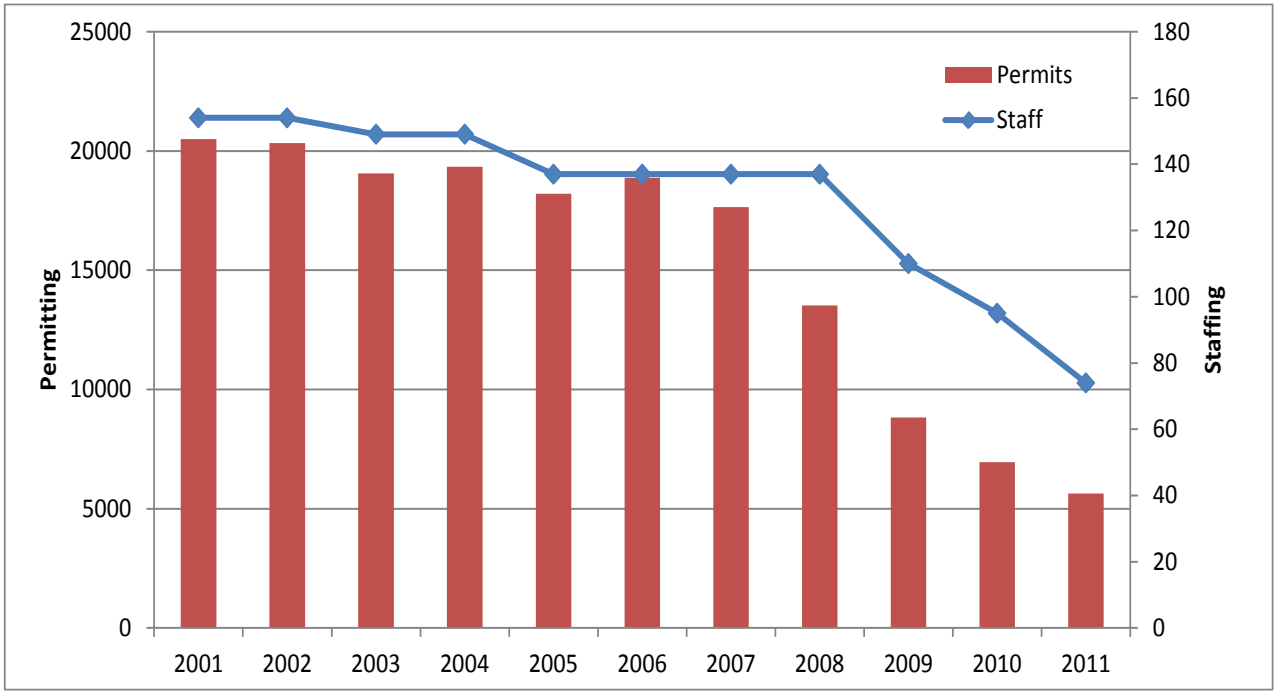
Responsibility		Description
System Construction Permits	New System Construction	The division issues permits for the construction of new subsurface sewage disposal systems. Permits issued in subdivisions are based on soil mapping. Permits issued on non-subdivision lots may be based on evaluations by environmental specialist staff or soil mapping by a soils consultant. Permits identify type, location, and size of system. Since 2001, the division has issued over 168,000 permits for the construction of new systems.
	Existing System Repair (No fee assessed for this service.)	The division provides a critical service involving the evaluation and diagnosis of failing subsurface sewage disposal systems. Most failing systems do not require replacement, but have issues such as faulty crossovers, tree roots, sludge, etc. Repair permits are issued when the repair involves the installation of an additional field line or the installation of a septic tank. Since 2001, the division has performed over 45,000 repair evaluations.
System Construction Inspection		Every system installation is inspected by division staff. Since 2001, the division has inspected over 185,000 installations, both new and repair.
Professional	Installer Permits	The division has adopted regulatory standards by which an individual may become permitted to install septic systems.
	Pumper Permits	The division has adopted regulatory standards by which an individual may become permitted as a septic tank pumping contractor. The division is also responsible for inspecting pumper trucks, and monitors the appropriate disposal of septic tank contents.
	Soil Consultant Approval	The division has adopted regulatory standards by which an individual may become an approved soil consultant. Private soil consultants provide the majority of soil mapping services rendered across the state.
Subdivision Evaluations		The division has adopted standards associated with the approval of subdivisions that are dependent on septic systems. These standards ensure an appropriate amount of suitable soil exists in support of each lot created.
Soil Evaluations		The division provides soil mapping services.
Complaints/Enforcement (No fees collected as a result of complaints.)		The division responds to complaints involving sewage disposal and takes action when a sewage disposal law is violated. Since 2001, staff has responded to over 32,000 complaints. Those not resolved by staff are turned over to the local district attorney for enforcement. The division has no authority to enforce penalties.

Table 18
Ground Water Protection Division
Fee Structure

Service	**Fee**
General soil mapping to determine eligibility	$80 per acre
High intensity soil mapping	$200 per acre
Extra-high soil mapping for disposal system	$250 per acre
Conventional application processing, inspections, and regulatory activities relative to disposal systems	$400 up to 1,000 gallons per day (gpd) flow plus $100 for each additional 1,000 gpd
Alternative application processing, inspections and regulatory activities relative to disposal systems	$500 up to 1,000 gpd plus $150 for each additional 1,000 gpd
Experimental application processing, inspections, and regulatory activities relative to disposal systems	$500
Subdivision evaluation	$65 per lot
Inspections of existing systems	$200 per inspection
Installer and Pumper permits	$200 per annual permit plus $100 per each alternative system
Sewage Survey	Actual Costs
Water samples	$115 per sample by mail delivery; $215 per sample by direct delivery
Plans Review	$750 per proposed system
Plat approval for individual lots	$65 per evaluated lot
Domestic septage disposal site permit	$400
Training (non-state agencies and individuals)	Calculated costs
Certificate of verification by homeowners of existing system	$100

As a result of the decline in revenue and the declining need for the number of staff that had been employed, staff numbers over the past ten years have been reduced by approximately 50% (from 154 positions in 2001 to 74 in 2011). This reduction in staff has resulted in a less dense population of environmental specialists that actually conduct the mechanics of the program, resulting in an increase in population served by these specialists. Furthermore, program management positions have also been reduced significantly. In fiscal year 2001, the density of staff to the size of the state was one staff person for every 319 square miles. Currently, there is one staff person for every 616 square miles. Exhibit 3 shows the decline in staff members over the past ten years in relation to new construction permit issuance.

Exhibit 3
Change in Staffing Compared to New Construction Permits
Fiscal Years 2001 Through 2011



Numerous adjustments to staffing patterns have been made in response to the change in staff population. Some counties that had a workload supportive of multiple staff may now only have workload supportive of one staff. Likewise, some counties that had a workload supportive of one staff now only have a staff person who is available certain days of the week.

Currently, according to the division director, the ability to respond in a timely manner to requests for services is about the same as it has been. Complaints and requests for system construction inspections are processed first. These types of requests are typically accommodated within one to three working days of the request. Repair permit applications are considered the next most critical service that is provided, followed by new construction permits, subdivision evaluations, inspection letters, and water samples. New permit applications are routinely processed in less than ten working days.

The Division of Ground Water Protection differs from other environmental divisions in some distinct ways. Ground Water Protection is the only department program that is housed in a primarily county-by-county staffing pattern. As stated earlier, Ground Water Protection's enforcement mechanism is also different from the other divisions in that the ultimate enforcement authority is through the local district attorney general. Section 68-221-406 identifies unlawful acts associated with the program. In the event an unlawful act is committed, the division issues a Notice of Violation (NOV) to the individual property owner. This NOV outlines the violation and cites the appropriate statute. Furthermore, the NOV identifies the timeline in which corrective actions are to be implemented. In the event the recipient does not comply with the NOV and the violation continues, a summons for that individual to appear in

General Sessions court is requested. The summons is then served to the violator and specifies the time and place of the court appearance. Ground Water Protection staff are also provided this information and appear in court to provide witness regarding the disposal violation.

The vast majority of enforcement activities begin through the complaint process. Staff evaluate complaints and send an NOV if an unlawful act is identified. In fiscal year 2011, Ground Water Protection staff investigated 1,703 complaints, prepared 647 NOVs, and participated in 123 legal actions involving the local district attorneys' offices. Many complaints that staff evaluate are determined to be invalid. Of those that are sent an NOV, the vast majority (approximately 80%) are resolved without the involvement of the district attorney. Furthermore, according to the division director, of the situations involving a court appearance, the vast majority of the violations are corrected prior to the actual court date. Prior to the hearing, staff communicate to the district attorney whether the violation has been addressed. Those violations that have been addressed are typically dismissed with no further action.

Conclusion

Throughout the audit, auditors conducted multiple interviews and had numerous conversations with the Director of Ground Water Protection, as well as staff members, in order to gain pertinent information, documentation, and a better understanding of the Ground Water Protection process. Auditors observed data during discussions with the director and analyzed documents and spreadsheets stemming back ten fiscal years with information pertaining to the type of work performed, workload per staff member, and revenue generated from this work. In addition, auditors reviewed *Tennessee Code Annotated*, the GWP Enforcement Manual, and Rules and Regulations for the department and division. Based on the interviews, observation, and document reviews, there appear to be no major issues at this time. However, as the economy improves, new construction permitting should increase. Therefore, auditors believe staff workload, including timeliness in both permitting and complaint processing, should be assessed in the next audit.

RECOMMENDATIONS

ADMINISTRATIVE

The Department of Environment and Conservation and related environmental boards should address the following areas to improve the efficiency and effectiveness of their operations.

1. To ensure data reliability and completeness of WasteBin, Division of Solid and Hazardous Waste Management, in consultation with the Commissioner, should develop written policies and procedures to implement a mechanism for conducting quality control reviews on a regular basis that ensure that all inspection forms are entered into WasteBin and that data are accurate, as well as providing guidance for the entering of data into the system. An additional measure could be to scan inspection forms into WasteBin, a practice implemented in other divisions, which could help eliminate the need for forwarding inspection forms to the Central Office while simultaneously providing access to information at all levels of the department.

2. Because of the percentage of noncompliance with the Class I inspection frequency policy, management should review the policy and assess whether it is effective at ensuring landfill compliance with requirements or whether the policy requires modification. Regardless, management should implement measures to ensure compliance with the inspection policy.

3. The Division of Solid and Hazardous Waste Management may want to consider modifying its forms and review process (as noted in Finding 1) to provide better documentation regarding what is reviewed during each landfill inspection and to better facilitate management's oversight of inspectors and assessment of the inspection process.

4. TDEC's Division of Internal Audit should continue to employ measures to improve the frequency and volume of completed Policy 22 reviews. Efforts leading to the successful delegation of monitoring activities to other divisions and widespread implementation of the online grant management database may also enhance the division's reviewing abilities and facilitate closer alignment with Policy 22 requirements.

5. The Division of Internal Audit should fully document and explain any related changes that are made to an approved Policy 22 monitoring plan. Furthermore, the division should develop and maintain consistent methods for determining yearly contract amounts as it pertains to sampling and contract selection. The division should work with the Department of Finance and Administration to identify any additional actions

that could improve the integrity and accuracy of contract sampling and monitoring, thus creating closer alignment with Policy 22 guidelines.

6. The Commissioner of Environment and Conservation should evaluate the department's subrecipient monitoring activities and consider changes needed to ensure subrecipient contracts are monitored efficiently and effectively. Based on that review, the Commissioner should consult with the Commissioner of Finance and Administration and the state's Chief Procurement Officer regarding changes needed to improve the effectiveness of the subrecipient monitoring process.

7. The department should develop and implement a written policy mandating annual conflict-of-interest disclosure and prompt updates whenever new conflicts arise, especially in those instances when state law requires abstention when certain financial interests exist. The policy should also provide for a mechanism to regularly review forms to ensure they are up-to-date. This will not only ensure that board members acknowledge the policy but also make staff aware of board member interests, thereby aiding in identification of conflicts as they arise. We also recommend the department develop and implement a written policy requiring all board members to complete a signed conflict-of-interest form upon appointment and that all board members complete orientation and training currently offered by the department.

8. The Compliance Advisory Panel should promptly meet and begin conducting the business that the panel is responsible for performing. The department should continue efforts to obtain panel appointments from the appropriate legislative appointing authorities, in order to complete the Compliance Advisory Panel, comply with federal law, and enable the panel to carry out its responsibilities.

Appendix 1
Title VI and Other Information

All programs or activities receiving federal financial assistance are prohibited by Title VI of the Civil Rights Act of 1964 from discriminating against participants or clients on the basis of race, color, or national origin. In response to a request from members of the Government Operations Committee, we compiled information concerning federal financial assistance received by the Department of Environment and Conservation, and the department's efforts to comply with Title VI requirements. The results of the information gathered are summarized below.

According to the state's *Fiscal Year 2011-2012 Budget*, the Department of Environment and Conservation received $58,968,200 in federal assistance during fiscal year 2010, broken down as follows:

Program	Amount	Percent of Total
Administration	$2,957,400	5%
Parks and Recreation	$4,084,200	7%
Environment	$51,926,600	88%
Total	**$58,968,200**	**100%**

With respect to Title VI compliance, the department reports annually to the Tennessee Human Rights Commission and as needed to other state and federal entities. The department submits Title VI compliance information to other state and federal entities when requested, as a condition of receiving federal funds. According to the Title VI Coordinator, information has been submitted to the Tennessee Department of Transportation, Tennessee Department of Health, the U.S. General Services Administration's Federal Surplus Property Program, and the U.S. Environmental Protection Agency.

The department has a Title VI Coordinator who works in the Office of Environmental Assistance. The coordinator's responsibilities include but are not limited to the following:

- coordinating the implementation of Title VI and Environmental Justice requirements throughout the agency;
- maintaining permanent records of Title VI matters;
- submitting required Title VI reports;
- creating awareness of statutory non-discriminatory requirements;
- disseminating Title VI information both internally and externally; and
- coordinating agency efforts to provide a mechanism for outreach to direct community participation in environmental decision-making.

To ensure that department staff and clients/program participants understand the requirements of Title VI, the department distributes discrimination policies in offices and public locations throughout the state, provides employee training, and disseminates information

regarding Civil Rights and complaint procedures via its website. The department informs contractors of Title VI responsibilities by including a non-discrimination statement in all contracts.

The department monitors Title VI compliance through contract language, subrecipient monitoring reviews, and the complaint process.

When the department receives a Title VI complaint, the Complaint Officer will review the complaint for validity, investigate if valid, and attempt to resolve the complaint. If negotiations to correct a violation are unsuccessful, enforcement proceedings may be initiated. The Complaint Officer submits findings and conclusions to the Title VI Coordinator, and the Assistant Commissioner issues a decision on the investigation findings and conclusions. Decisions by the Assistant Commissioner can be appealed to the Commissioner within 30 days of receipt of the decision. A complaint may be filed with the appropriate federal agency no later than 180 calendar days after the alleged discrimination occurred.

Female/Minority-Owned Business Contracts
Fiscal Year 2011

Vendor	Contract Amount	Services Provided	Ownership
Air Quest America	$635	HVAC Repair	Female
Boxes, Etc., LLC	$1,428	Boxes	Female
Carolina Imaging	$105,562	Toner Products	Female
Compumeric Engineering, Inc	$7,141	Engineering	Female
Cookeville Glass & Mirror, Inc.	$200	Glass	Female
E & E Lawn Services, LLC	$250	Lawn Care	Minority
Fran’s Cream	$540	Hand Creams	Female
Greene Military	$24,322	Uniform Clothing, Boots	Female
International Office Products, Inc.	$208	Office Supplies	Female
Medgluv, Inc.	$9,812	Gloves	Minority
Myers Plumbing, Inc.	$37,791	Plumbing Service	Female
Nashville Natives, LLC	$10,649	Landscaping	Minority
Porter-Walker, LLC	$87	Industrial Supplies	Minority
Ron Fords Office Supply Co.	$2,351	Office Supplies	Female
Schneider Laboratories, Inc.	$2,435	Lab Testing	Female
Seal Co., Inc.	$1,983	Janitorial Services	Minority
Seasons Change	$4,723	Landscaping	Female
Southern Safety Supply, LLC	$193	Industrial Supplies	Female
SRS, Inc.	$26,000	Flooring	Minority
Stones River Electric, Inc.	$10,178	Electrical Contracting	Female
Tesco Building Maintenance	$10,548	Building Maintenance	Minority
Theta Technologies, Inc.	$186,040	Engineering	Female
Tristar Digital Connections, LLC	$7,794	Telecom	Minority
TSC Marketing	$833	Marketing	Female
Ward Cleaning Services	$900	Janitorial Services	Minority

Board Member and Employee Gender and Ethnicity

The tables below detail the breakdown of board members and agency staff by gender and ethnicity.

Environmental Boards
Board Member Gender and Ethnicity as of September 2011

	Gender		Ethnicity					
Entity	**Male**	**Female**	**Asian**	**Black**	**Hispanic**	**Indian**	**White**	**Other**
Air Pollution Control Board	10	4		1			13	
Compliance Advisory Panel	4	1		2			3	
Ground Water Management Board	5	0					5	
Petroleum Underground Storage Tank Board	7	2	1				8	
Solid Waste Disposal Control Board	9	2		2			9	
Water Quality Control Board	6	4		1			9	
Total	**41**	**13**	**1**	**6**	**0**	**0**	**47**	**0**

Tennessee Department of Environment and Conservation
Staff Ethnicity and Gender by Job Position
September 12, 2011

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Account Clerk	2	21	0	0	1	0	22	0
Accountant 2	4	3	0	1	1	0	5	0
Accountant 3	11	6	0	2	6	0	8	1
Accountant/Auditor 1	1	1	0	0	1	0	1	0
Accounting Manager	0	3	0	1	0	0	1	1
Accounting Technician 1	1	16	0	1	3	0	12	1
Accounting Technician 2	1	3	0	0	0	0	4	0
Administrative Assistant 1	0	11	0	0	2	0	9	0
Administrative Assistant 3	0	1	0	0	0	0	1	0
Administrative Secretary	2	37	0	0	9	0	30	0
Administrative Services Assistant 1	0	1	0	0	0	0	1	0
Administrative Services Assistant 2	2	27	0	1	5	0	23	0
Administrative Services Assistant 3	9	20	0	0	6	0	23	0
Administrative Services Assistant 4	6	22	0	0	3	0	24	1
Administrative Services Assistant 5	2	12	0	0	1	0	13	0
Administrative Services Manager	1	2	0	0	0	0	3	0
Archaeologist 1	1	1	0	0	0	0	2	0
Archaeologist 2	4	1	0	0	0	0	5	0
Archaeologist Supervisor	1	0	0	0	0	0	1	0
Archaeologist - State	1	0	0	0	0	0	1	0
Assistant Commissioner 1	1	0	0	0	0	0	1	0
Assistant Commissioner 2	2	0	0	0	0	0	2	0
Attorney 1	1	1	0	0	0	0	2	0
Attorney 3	4	2	0	0	1	0	5	0
Attorney 4	4	1	0	0	0	0	5	0
Audit Director 1	1	0	0	0	0	0	1	0
Auditor 2	1	1	0	0	2	0	0	0
Auditor 3	1	0	0	0	0	0	1	0

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Auditor 4	0	1	0	0	0	0	1	0
Automotive Master Mechanic	1	0	0	0	0	0	1	0
Baker	0	1	0	0	0	0	1	0
Biologist 2	1	0	0	0	0	0	1	0
Biologist 3	6	3	0	0	0	0	9	0
Biologist 4	4	1	0	0	0	0	5	0
Board Member	32	9	0	0	1	0	39	1
Budget Analysis Director 1	1	0	0	0	0	0	1	0
Budget Analyst 2	2	0	0	0	0	0	2	0
Building Maintenance Worker 1	4	0	0	0	0	0	4	0
Building Maintenance Worker 2	10	0	0	0	0	0	10	0
Building Maintenance Worker 3	8	0	0	0	1	0	7	0
Business Development Consultant 2	2	0	0	0	0	0	2	0
Chemist 3	1	0	0	0	0	0	1	0
Chief Ranger	1	0	0	0	0	0	1	0
Clerk 1	12	31	0	0	1	0	42	0
Clerk 2	6	37	0	0	2	1	40	0
Clerk 3	6	30	0	0	4	0	31	1
Commissioner 1	1	0	0	0	0	0	1	0
Conservation Maintenance Administrator	1	0	0	0	0	0	1	0
Conservation Planner 3	1	0	0	0	0	0	1	0
Conservation Planning Director	1	1	0	0	0	0	2	0
Conservation Worker 1	125	36	0	0	7	1	153	0
Conservation Worker 2	64	3	0	0	1	0	66	0
Conservation Worker 3	28	0	0	0	1	0	27	0
Cook 1	6	20	0	0	1	0	25	0
Cook 2	2	6	0	0	1	1	6	0
Custodial Worker 1	23	69	0	0	8	0	84	0
Custodial Worker 2	1	11	0	0	0	0	12	0
Custodial Worker Supervisor 1	0	8	0	0	2	0	6	0

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Custodial Worker Supervisor 2	1	0	0	0	0	0	1	0
Database Administrator 3	2	0	0	1	0	0	1	0
Deputy Commissioner 1	2	1	0	0	0	0	3	0
Environmental Assistance Program Director	0	1	0	0	0	0	1	0
Environmental Assistance Program Manager 1	2	1	0	0	0	0	3	0
Environmental Assistance Program Manager 2	0	2	0	0	1	0	1	0
Environmental Field Office Manager	40	6	0	1	1	0	43	1
Environmental Investigator	4	0	0	0	2	0	2	0
Environmental Program Administrator	1	1	0	0	0	0	2	0
Environmental Program Director	8	1	0	0	0	0	9	0
Environmental Program Manager 1	20	10	0	0	3	0	26	1
Environmental Program Manager 2	12	5	0	0	0	0	17	0
Environmental Program Manager 3	14	0	0	0	0	0	14	0
Environmental Protection Specialist 1	1	0	0	0	0	0	1	0
Environmental Protection Specialist 3	47	22	0	7	14	0	40	8
Environmental Protection Specialist 4	46	8	0	7	4	0	40	3
Environmental Protection Specialist 5	17	5	0	3	2	1	15	1
Environmental Protection Specialist 6	9	1	0	0	1	0	8	1
Environmental Protection Specialist 7	2	2	0	0	0	0	4	0
Environmental Specialist 1	6	1	0	1	0	0	5	1
Environmental Specialist 3	118	50	1	1	3	0	162	1
Environmental Specialist 4	80	18	0	1	3	0	94	0
Environmental Specialist 5	42	11	0	0	1	0	52	0

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Environmental Specialist 6	36	11	0	0	3	0	44	0
Epidemiologist	1	0	0	0	0	0	0	1
Equipment Mechanic 1	11	0	0	0	0	0	11	0
Equipment Mechanic 2	2	0	0	0	0	0	2	0
Equipment Operator	6	0	0	0	0	0	6	0
Equipment Operator Supervisor	3	0	0	0	0	0	3	0
Equipment Service Worker	1	0	0	0	1	0	0	0
ERP Consultant 2	1	0	0	0	0	0	1	0
Executive Administrative Assistant 1	1	3	0	0	0	0	4	0
Executive Administrative Assistant 2	1	1	0	0	0	0	2	0
Executive Administrative Assistant 3	5	2	0	0	0	0	7	0
Facilities Construction Specialist 3	1	0	0	0	0	0	1	0
Facilities Manager 2	3	0	0	0	0	0	3	0
Facilities Supervisor	6	0	0	0	0	0	6	0
Facilities Surveyor	5	0	0	0	0	0	5	0
Fiscal Director 1	0	1	0	0	1	0	0	0
Fiscal Director 2	1	0	0	0	1	0	0	0
Food Service Assistant Manager 2	1	1	0	0	0	0	2	0
Food Service Supervisor 2	1	3	0	0	1	0	3	0
Food Service Worker	30	71	0	0	5	0	96	0
Forester 2	1	0	0	0	0	0	1	0
General Counsel 4	1	0	0	0	0	0	1	0
Geologist 3	20	4	0	0	0	0	23	1
Geologist 4	12	4	0	1	0	0	15	0
Geologist 5	2	0	0	0	0	0	2	0
Geologist-State	1	0	0	0	0	0	1	0
GIS Analyst 2	0	1	0	0	0	0	1	0
GIS Technician Manager 1	1	0	0	0	0	0	1	0
Golf Course Manager	9	1	0	0	0	0	10	0
Golf Operations Administrator	1	0	0	0	0	0	1	0
Graduate Trainee	14	9	0	0	0	0	23	0
Grants Analyst 2	1	0	0	0	0	0	1	0

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Grants Analyst 3	1	0	0	0	0	0	1	0
Grants Program Manager	0	1	0	0	0	0	1	0
Graphics Designer 1	0	1	0	0	0	0	1	0
Graphics Designer 2	1	0	0	0	0	0	1	0
Greens Superintendent	2	0	0	0	0	0	2	0
Greenskeeper	10	0	0	0	1	0	9	0
Grounds Worker 1	21	0	0	0	3	0	18	0
Grounds Worker 2	9	2	0	0	0	0	11	0
Grounds Worker 3	2	2	0	0	0	0	4	0
Health Physicist 1	3	1	0	0	0	0	4	0
Health Physicist 3	10	8	0	0	3	1	13	1
Health Physicist Consultant	1	0	0	0	0	0	1	0
Health Physicist Director	0	1	0	0	0	0	1	0
Health Physicist Field Manager	3	1	0	0	0	0	4	0
Health Physicist Program Manager 1	2	0	0	0	0	0	2	0
Health Physicist Program Manager 2	4	0	0	0	0	0	4	0
Health Physicist Program Manager 3	1	0	0	0	0	0	1	0
Health Physicist Supervisor 1	6	1	0	0	2	0	5	0
Health Physicist Supervisor 2	4	3	0	0	0	0	7	0
Historical Commission Director	1	0	0	0	0	0	1	0
Historical Preservation Specialist Supervisor	1	0	0	0	0	0	1	0
Historical Preservation Specialist 2	3	1	0	0	0	0	4	0
Historical Preservation Specialist 3	1	1	0	0	0	0	2	0
Horticultural Manager	1	0	0	0	0	0	1	0
Hospitality Assistant	5	15	0	0	0	0	20	0
Hospitality Manager 1	1	9	0	0	0	0	10	0
Hospitality Manager 2	2	4	0	0	0	0	6	0
Hospitality Manager 3	3	1	0	0	0	0	4	0
Hotel and Restaurant Management Specialist	1	1	0	0	0	0	2	0
Human Resource Analyst 3	0	3	0	0	1	0	2	0

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Human Resource Director 3	0	1	0	0	0	0	1	0
Human Resource Manager 1	1	2	0	0	1	0	2	0
Human Resource Manager 2	0	1	0	0	0	0	1	0
Human Resource Technician 1	1	0	0	0	0	0	1	0
Human Resource Technician 3	1	0	0	0	1	0	0	0
Human Resource Transactions Supervisor	0	1	0	0	1	0	0	0
Information Resource Support Specialist 2	1	0	0	0	0	0	1	0
Information Resource Support Specialist 3	6	1	0	0	2	0	5	0
Information Resource Support Specialist 4	4	3	0	0	1	0	6	0
Information Resource Support Specialist 5	3	1	0	0	0	0	4	0
Information Officer	0	2	0	0	0	0	2	0
Information Systems Analyst 4	0	1	0	1	0	0	0	0
Information Systems Consultant	2	2	0	0	1	0	3	0
Information Systems Director 3	1	0	0	0	0	0	1	0
Information Systems Manager 2	1	1	0	0	0	0	2	0
Laborer	228	106	0	1	11	1	321	0
Legal Assistant	1	3	0	0	1	0	3	0
Legal Services Director	1	0	0	0	0	0	1	0
Lifeguard 1	79	70	0	0	10	0	139	0
Lifeguard 2	10	6	0	0	1	0	15	0
Mail Clerk	1	0	0	0	0	0	1	0
Marina Manager	2	0	0	0	0	0	2	0
Meteorologist	1	1	0	0	0	0	2	0
Museum Program Assistant	1	1	0	0	0	0	2	0
OFD Project Manager	1	0	0	0	0	0	1	0
Operations Specialist 2	1	0	0	0	0	0	1	0
Operations Specialist Supervisor 2	1	0	0	0	0	0	1	0

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Park Area Manager	4	0	0	0	0	0	4	0
Park Interpretive Specialist 2	15	6	0	0	1	0	20	0
Park Interpretive Specialist 3	3	1	0	0	0	0	4	0
Park Manager 1	27	5	0	0	1	0	31	0
Park Manager 2	15	0	0	0	1	0	14	0
Park Manager 3	12	1	0	0	0	0	13	0
Park Ranger 2	78	14	0	0	2	1	88	1
Parks Marketing Manager	1	1	0	0	0	0	2	0
Procurement Officer 1	1	2	0	0	0	0	2	1
Procurement Officer 2	0	2	0	0	0	0	2	0
Programmer/Analyst 3	1	1	0	1	0	0	1	0
Programmer/Analyst 4	0	3	1	1	0	0	1	0
Programmer/Analyst Supervisor	1	0	0	0	0	0	1	0
Publications Editor 2	0	1	0	0	0	0	1	0
Radio Communications Technician 2	1	0	0	0	0	0	1	0
Radio Communications Technician 3	3	0	0	0	0	0	3	0
Radio Communications Technician Supervisor	1	0	0	0	0	0	1	0
Radio Systems Analyst	1	0	0	0	0	0	1	0
Recreation and Interpretive Program Manager	1	0	0	0	0	0	1	0
Recreational Services Assistant Director	0	1	0	0	0	0	1	0
Recreational Services Director	1	0	0	0	0	0	1	0
Recreational Services Specialist	3	1	0	0	0	0	4	0
Room Clerk	10	32	0	0	1	0	41	0
Seasonal Interpreter/Recreator	40	33	1	0	1	0	71	0
Secretary	1	42	0	0	5	1	37	0
Servitor	7	58	0	0	2	0	63	0
Soils Consultant Regional Supervisor	2	0	0	0	0	0	2	0
Soils Consultant 2	1	1	0	0	0	0	2	0
Storekeeper 1	2	3	0	0	0	0	5	0
Stores Clerk	1	3	0	0	1	0	3	0

Title	Gender		Ethnicity					
	Male	*Female*	*American Indian*	*Asian*	*Black*	*Hispanic*	*White*	*Other*
Student Assistant	3	0	0	0	0	0	3	0
Training Officer 1	0	1	0	0	0	0	1	0
Transportation Technician 1	1	0	0	0	0	0	1	0
Treatment Plant Operator	2	0	0	0	0	0	2	0
Watchkeeper	1	0	0	0	0	0	1	0
Website Developer 1	0	1	0	0	0	0	1	0
Website Developer 2	0	1	0	0	0	0	1	0
West Tennessee River Basin Authority Director	1	0	0	0	0	0	1	0
Total	**1,755**	**1,191**	**3**	**33**	**174**	**8**	**2,700**	**28**

Appendix 2
Performance Measures Information

As stated in the Tennessee Governmental Accountability Act of 2002, "accountability in program performance is vital to effective and efficient delivery of governmental services, and to maintain public confidence and trust in government." In accordance with this act, all executive branch agencies are required to submit annually to the Department of Finance and Administration a strategic plan and program performance measures. The department publishes the resulting information in two volumes of *Agency Strategic Plans*: *Volume 1 - Five-Year Strategic Plans* and *Volume 2 - Program Performance Measures*. Agencies were required to begin submitting performance-based budget requests according to a schedule developed by the department, beginning with three agencies in fiscal year 2005, with all executive-branch agencies included no later than fiscal year 2012. The Department of Environment and Conservation began submitting performance-based budget requests effective for fiscal year 2004-05.

Detailed below are the Department of Environment and Conservation's performance standards and performance measures, as reported in the September 2010 and 2011 *Volume 2 - Program Performance Measures*. Also reported below is a description of the agency's processes for (1) identifying/developing the standards and measures; (2) collecting the data used in the measures; and (3) ensuring that the standards and measures reported are appropriate and that the data are accurate.

Performance Standards and Measures

327.01 Administrative Services

Performance Standard

Maintain the percentage of Administration's actual expenditures as compared to department's total expenditures.

Performance Measure

Percent increase in Administration's expenditures as compared to department's total expenditures.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
0%	0%	0%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
0%	0%	0%

This performance standard measures the cost of the administration of the department as it relates to the cost of the programs in the department. The data for this measure comes from an Edison financial module report, and the calculation is reviewed by the Assistant Commissioner for Administration. The measure is calculated first by determining the percentage of total department expenses that are administrative expenses for two consecutive fiscal years, then

determining the difference in percentage points between the two years' calculation by subtracting the first year's percentage from the second year's percentage.

Auditor Note: After our review of the Administrative Services performance measure information, the audit team determined that the measure's description does not reflect the calculation of the measure. The description indicates that the calculation is a percent change between the two administrative expense portions of the total department expenses; rather, the measure shows the numerical difference between the two numbers. We recommend that the department can improve the clarity of the description and measure by either changing the description to reflect the actual calculation used, or use as the performance measure the percentage of administrative expenses of the total department expenses for the current fiscal year.

327.03 Recreation Educational Services

Performance Standards

1. Increase the number of counties that develop or expand a local, state, or federal trail or greenway system.
2. Increase the number of counties or municipalities in underserved areas that create an organized parks and recreation delivery system.

Performance Measures

1. Number of counties and municipalities that develop or expand a local, state, federal trail or greenway system.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
141	146	150

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
148	150	155

2. Number of counties or municipalities in underserved areas that create an organized parks and recreation delivery system.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
78	79	81

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
79	81	82

Greenways and trails are an integral part of having a high quality of life in a community by providing positive economic impacts, a location for physical activities and recreation, and an alternate mode of transportation for bicycles and pedestrians. This measure is the count of the counties that have a completed greenway and trail, and is determined as the trail projects are finished. The information is reviewed by the Greenways and Trails program coordinator.

The Division of Recreation Educational Services provides grants to municipal and county governments to add public parks and recreation departments. The performance measure represents the number of completed and closed grant projects, and is tracked in a database managed by division staff. The division's director and assistant director review the data.

327.04 Historical Commission

Performance Standards

1. Survey and add properties to the National Register of Historic Places.
2. Review projects to ensure they are in compliance with the National Historic Preservation Act of 1966 as amended.

Performance Measures

1. Number of properties added to the National Register of Historic Places.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
250	250	250

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
485	250	250

2. Percent of review and compliance projects reviewed within 30 calendar days from date of formal receipt.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	100%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
99%	100%	100%

The National Register of Historic Places is the nation's list of cultural resources considered worthy of preservation. Three times a year, the Tennessee Review Board meets to recommend properties for listing in the National Register, and submits a list of nominations to the National Park Service. Once the nomination has been approved, it is added to the National Register. Historical Commission personnel track the properties added to the register, and the measure is reviewed by the assistant director.

The Historical Commission also receives requests for project and program reviews from federal agencies and non-federal applicants. These reviews involve determinations of eligibility for listing in the National Register of Historical Places and findings of project-related effects upon such resources. Federal regulations require that at least 95 percent of review requests be completed within 30 days or less. The reviews are tracked in a database by the Review and Compliance coordinator, and verified by the assistant director.

327.06 Land and Water Conservation Fund

Performance Standard

Maintain, at 95%, the annual allocation to be used for acquisition, development, or acquisition/development projects.

Performance Measure

Percent of annual allocation to be used for acquisition and/or development projects.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
95%	95%	95%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	95%	95%

The federal Land and Water Conservation Fund is a 50 percent matching federal program designed to assist in the acquisition, rehabilitation, and development of public outdoor recreation areas and facilities. The Recreation Educational Services Division obtains the allocation amount through the grant application process. The data are reviewed by the division's director and assistant director.

327.18 Maintenance of Historic Sites

Performance Standard

Maintain the 15 state-owned historic sites according to historic preservation standards for visitation by the public.

Performance Measure

Percent of state-owned sites where maintenance projects are initiated within one year of a formal request.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	100%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

The program's purpose is to perform maintenance at state-owned historic sites so that the sites will not pose a safety concern to the students and tourists that visit them. The historical site coordinator tracks the number of sites where maintenance projects were undertaken each fiscal year. The assistant director verifies that the projects were undertaken at state-owned sites.

327.08 Archaeology

Performance Standard

Respond to all requests for opinions, recommendations, site visits, and archaeological information within 30 days.

Performance Measure

Percent of responses within 30 days to all requests for opinions, recommendations, site visits, and archaeological information.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	99%	99%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	99%	99%

The Division of Archaeology receives requests from a variety of groups, including government agencies and professional archaeologists for on-site assessments, assistance, and advice. The division's goal is to respond to these requests within 30 days. Each staff member maintains a tracking sheet for each month. At the end of each month, the division director reviews and compiles the information into an Excel spreadsheet, which calculates the measure.

327.12 Tennessee State Parks

Performance Standards

1. Improve self-sufficiency in state parks resort facilities.
2. Protect and preserve Tennessee's biological diversity of plant life.

Performance Measures

1. Percent of operational self-sufficiency at all Tennessee State Parks' resort facilities.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%*	100%	100%

* Estimate

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

2. Percent of targeted rare plant species with a minimum of at least one protected population in at least one designated or registered state natural area and/or scenic river.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
37%	39%	41%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
38%	41%	43%

The first measure indicates whether the revenues coming into retail park operation, such as restaurants, inns, and golf courses, cover the operating costs of these operations. If the percentage is less than 100 percent, the operational costs exceed revenues. The calculation is derived from the monthly income statement for State Parks, and is reviewed by TDEC's Fiscal Division.

TDEC's Natural Heritage and Inventory Section gathers and analyzes statewide natural resource data in part to guarantee the protection and conservation of the rare plant species located in TDEC owned and managed conservation lands and waters. The data can also be used to guide which lands are suitable as State Natural Areas or Scenic Rivers in order to expand on the number of rare plants conserved in the state. The natural resource data are maintained in a database, and the measure is calculated in an Excel spreadsheet from raw numbers generated from this database. The Natural Heritage Program Coordinator and the section manager review the calculations.

327.15 Tennessee State Parks Maintenance

Performance Standard

Effectively complete maintenance projects and coordinate major emergency repairs with available funds.

Performance Measure

Percent of major maintenance funds encumbered or spent.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
96%	95%	95%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
99%	95%	95%

With limited maintenance funds, it is important that State Parks can effectively and efficiently allocate and expend the funds. Per the performance measure information form, "the maintenance funds are usually only accessible within the fiscal year they are appropriated." Three regional maintenance offices track the expenditures, and the expenditure data are compiled by a State Parks employee at the end of each month.

327.19 Local Parks Acquisition Fund

Performance Standard

Effectively and efficiently distribute grants to local governments.

Performance Measure

Percent of funds awarded in biennial grant cycle.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
Not Applicable*	97%	Not Applicable*

*Grants are awarded once every other year.

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
97%	Not Applicable*	95%

*Grants are awarded once every other year.

This fund, known as the Local Parks and Recreation Fund, provides grants to local governments for the purchase of land for parks, natural areas, greenways, and recreation facilities. Grant applications are received from local governments throughout the state, and grantees must match the grant with an equal amount of money for each project. The Recreation Educational Services Division collects the data through the grant application process, and the data are reviewed by the RES director and assistant director.

327.20 State Lands Acquisition Fund

Performance Standard

Complete by canceling or closing State Building Commission approved acquisitions within one year of approval.

Performance Measure

Percent of State Building Commission approved projects where the acquisition is completed or cancelled within one year.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
85%	85%	85%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
85%	85%	85%

The fund provides money for land acquisition, development of trails, and restoration of certain historic theatres. This measure is calculated from data collected during the approval and acquisition process, specifically the approval date from the State Building Commission and the date of the settlement statement. The Recreation Educational Services Division assistant director reviews the data and the measure's calculation.

327.22 State Lands Compensation Fund

Performance Standard

Make payment of State Lands Compensation Fund money within a 30-day period of time upon receipt of notification from the Department of Finance and Administration.

Performance Measure

Percent of funds released to local governments within 30 days of notification from the Department of Finance and Administration.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	100%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

The fund reimburses local government for lost property taxes resulting from the purchase of land by the state. This measure is important fiscally to make sure the program makes payments in a timely manner. Personnel in the department's accounting section compare the date of notification from the Department of Finance and Administration to the date the payments were made, and this information is reported to the Budget Director.

327.50 Tennessee Heritage Conservation Trust Fund

Performance Standards

1. Preserve undeveloped open spaces, undeveloped natural areas, and the state's heritage because of their importance to citizens' physical and mental health.
2. Use state dollars to leverage funds from partners to support projects that preserve open spaces and the state's heritage.

Performance Measures

1. Acres conserved.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
3,245	1,240	1,000

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
328	1,000	Not Applicable*

*Current Balance is Allocated

2. Partner dollars leveraged with state funds.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
$7,680,000	$3,500,000	$1,250,000

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
$1,200,000	$1,250,000	Not Applicable*

*Current Balance is Allocated

The Trust Fund preserves and protects significant conservation lands for future generations by identifying key lands within the state where grant funds can make an impact. The number of acres conserved is determined when the land acquisition closes, and is tracked by the Director of the Resource Management Division on an Excel spreadsheet.

The Trust Fund provides the grants to land trusts and other conservation organizations. The grantees are asked to match the grant funds with other sources, allowing the grant funding to go further. The performance measure is calculated based on the actual dollars from other funding sources leveraged by the grant, and is collected by the Director of the Resource Management Division on an Excel spreadsheet.

327.51 Conservation Compensation Fund

Performance Standard

Make in-lieu-of-tax payments to local governments within a 90-day period of time upon receipt of notification from the Department of Finance and Administration.

Performance Measure

Percent of funds released to local governments within 30 days of notification from the Department of Finance and Administration. Current policy requires this within a 90-day period.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	100%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

The fund reimburses local government for lost property taxes resulting from the purchase of land by the state. This measure is important fiscally to make sure the program makes payments in a timely manner. Personnel in the department's accounting section compare the date of notification from the Department of Finance and Administration to the date the payments were made, and this information is reported to the Budget Director.

327.30 Environment Administration

Performance Standard

Maintain and coordinate issuance of enforcement orders to achieve accurate and prompt issuance and deter noncompliance within the regulated community.

Performance Measure

Number of enforcement orders issued to achieve accurate and prompt issuance and deter noncompliance within the regulated community.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
800	800	700

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
815	700	700

This measure is a count of all administrative enforcement orders issued by the department within a one-year period. The orders are tracked in a department-wide enforcement database, and a report is created from the database that shows the number of orders issued during a specific timeframe. Quality assurance checks of the orders are regularly performed within each division's enforcement program and the data are reviewed by the department's enforcement coordinator.

327.11 Geology

Performance Standards

1. Complete four geologic maps and reports for public distribution.
2. Perform 100% of requested geologic hazard assessments.

Performance Measures

1. Number of geologic maps and reports completed.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
3	4	4

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
3	4	3

2. Percent of requests for geologic hazard assessments conducted.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	100%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

The first measure indicates the number of geological maps and reports completed for public release that provide geological information for the citizens of Tennessee. The progression and completion of individual maps and publications are monitored through staff monthly reports that are reviewed by the division director.

The Geology program also maps and identifies geological hazards across the state, and the number of completed requests for the assessment of these hazards is tracked through staff monthly reports collected by the division director.

327.23 Used Oil Collection Program

Performance Standard

Increase the percent of used oil being collected from do-it-yourselfers for reuse and recycling.

Performance Measure

Percent increase of used oil collected for reuse and/or recycling.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
4%	4%	4%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
4%	4%	4%

The Used Oil Collection program promotes the collection, recycling, and proper disposal of used oil and inspects used oil facilities. State law prohibits the general public from improperly using or discharging used oil into the environment. Each planning region of the Division of Solid and Hazardous Waste Management submits annual progress reports with collection and recycling data into the division's database. This measure is calculated from the database, and is reviewed by division personnel.

327.26 West Tennessee River Basin Authority

Performance Standard

Perform environmentally sensitive stream maintenance and continue routine maintenance on infrastructure.

Performance Measure

Number of flood control/sediment retention minor maintenance projects completed.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
40	40	40

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
65	55	55

This measure indicates the amount of completed maintenance projects required by TCA 64-1-1101 including stabilizing man-altered streams and rivers and performing maintenance on flood control/sediment retention structures and gradient control structures. Tracking of the maintenance projects is done through the collection of data sheets by authority supervisors and managers and through an Excel spreadsheet. Each month the data are reviewed by authority management and engineering staff.

327.24 West Tennessee River Basin Authority Maintenance

Performance Standard

Perform major maintenance on structures and construct stream-floodplain restoration projects throughout West Tennessee.

Performance Measure

Number of major maintenance or stream-floodplain restoration projects completed.

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
3	3	3

The authority maintains rivers and gradient control structures in the 20-county region of West Tennessee in order to preserve proper stream and river function. The data used in this measure are collected by the authority's Lead Project Engineer or engineering consultants and are reviewed by management and engineering staff at various stages of a project.

327.28 Tennessee Dry Cleaners Environmental Response Fund

Performance Standard

Oversee the cleanup of dry cleaning solvent impact sites that are progressing toward cleanup through ongoing environmental response activities.

Performance Measure

Percent of identified dry cleaning remediation sites at which cleanup has been initiated.*

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
40%	40%	35%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
67%	35%	35%

*According to Division of Remediation management, given the multi-step process, a more appropriate measure would be "Percent of identified dry cleaning sites with progress during the fiscal year toward investigation and/or cleanup."

The fund provides oversight and funding for the investigation and cleanup of soil and ground water polluted by solvents released from dry cleaning operations. This measure is calculated by dividing the total number of sites with incremental progress by the total number of sites in the environmental response program. Progress at a site is tracked in a program activity log and is reviewed by the Deputy Director.

327.31 Air Pollution Control

Performance Standards

1. Attain the March 12, 2008, EPA national ambient air quality standard (0.075 parts per million) for ozone by the yet to be determined EPA attainment dates.
2. Attain the new, more restrictive EPA national ambient air quality standard (annual average of 15 $\mu g/m^3$ and daily average of 35 $\mu g/m^3$) for fine particulate matter at all monitors in the state by the EPA attainment dates.

Performance Measures

1. Average design values of all ozone-monitoring sites in the state for ozone ambient concentrations in parts per million (ppm).

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
0.079 ppm	0.078 ppm	0.077 ppm

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
0.072 ppm	0.077 ppm	0.076 ppm

2. Average annual values of all $PM_{2.5}$ fine particulates (in $\mu g/m^3$) monitoring sites.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
12.9	12.8	12.7

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
11.0	12.7	12.6

The Air Pollution Control Division is responsible for the regulation of air contaminants and pollutants that are emitted into the atmosphere, for the enforcement of state and federal regulations, and for the measurement of air quality. The data for both measures are collected by the state's monitoring networks and entered into the EPA AQS AIRS database by division staff. The measures are determined using a report from the database, and are reviewed by various division personnel.

327.32 Radiological Health

Performance Standard

Meet the required percentage of registered inspectors' follow-up inspections in fiscal year 2012-2013.

Performance Measure

Percent of inspections performed by registered inspectors that are verified for quality assurance purposes.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
10%	10%	10%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
11.4%	10%	10%

The Radiological Health program assists the prevention of radiological conditions that may be a threat to good health and addresses radiological hazardous conditions through education, enforcement, and remediation. Follow-up inspections are performed for 10 percent of registered x-ray facilities at which compliance inspections have been completed by private inspectors. The data collected by the inspection staff are reviewed by the Health Physics supervisor and the department's statewide Inspection and Enforcement Manager.

327.33 Clean Water and Drinking Water State Revolving Fund

Performance Standard

Complete thorough and appropriate evaluation of loan recipients and their capability to repay loan amounts in full and on time.

Performance Measure

Percent of State Revolving Fund loan recipients that repay loan(s) on time and in full.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	100%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

The fund provides low-interest loans to local governments for planning, design, and construction of water and wastewater facilities in order to keep them in compliance with the Safe Drinking Water Act Amendments of 1996 and the Clean Water Act of 1987. The Office of State and Local Finance maintains a financial database to monitor the fund's loan activity consisting of principal loan amount, interest, and repayments. Loan recipients that are either in default of their loan repayments or not paying repayments in a timely manner are monitored by the fund and the Office of State and Local Finance. However, since the inception of the fund none of the borrowers have been in default.

327.34 Water Pollution Control

Performance Standard

Evaluate self-reported permit compliance and inspect major dischargers to determine compliance with permit requirements.

Performance Measure

Percent of major National Pollutant Discharge Elimination System (NPDES) discharge facilities in significant compliance.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
92%	90%	90%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
94%	90%	90%

The measure of a major permit holder's compliance reflects the effectiveness of water pollution control regulations. The compliance percentage is generated from a report developed by the EPA's federal compliance information system. Staff from the Enforcement and Compliance section of the Water Pollution Control division review the report from the EPA.

327.35 Solid Waste Management

Performance Standards

1. Increase the percentage of landfill/solid waste facilities in significant operational compliance.

2. Increase the percentage of in-progress remediation sites released for reuse.

Performance Measures

1. Percent of landfill/solid waste facilities in significant operational compliance.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
97%	97%	97%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
97%	97%	97%

2. Percent of total active remediation sites annually cleaned up and released from the program.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
10%	10%	10%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
10%	10%	10%

The Solid Waste Management program has the responsibility for developing, implementing, and enforcing regulations for solid waste management. The primary means of waste disposal are municipal waste landfills, which contain wastes from household garbage to industrial waste; this type of waste disposal can have a significant impact on citizens or the environment. The data used to calculate the first measure are taken from enforcement actions tracked within the division's database, WasteBin. This measure is reviewed by the program manager.

The remediation program is a voluntary program that oversees the remediation and closure of facilities that are not required to enter the state's permitting process (e.g., hazardous waste sites not having a hazardous waste permit or an old solid waste dump site). The program uses an Access database to track each site's remediation progress, and uses the database to calculate the measure. The program manager reviews the data calculations.

327.36 DOE Oversight

Performance Standard

Increase the percentage of the Oak Ridge Reservation remediation project in compliance with relevant emissions standards, as measured by acres where remediation is complete.

Performance Measure

Percent of Oak Ridge Reservation acres where remediation is complete.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
3.5%	3.5%	3.5%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
3.5%	3.5%*	7.5%*

*September 2011 *Volume 2 – Program Performance Measures* listed 7.5% as the Estimate for FY 2012 and 3.5% as the Target for FY 2013; however, according to Division of DOE Oversight management, 3.5% is the correct Estimate for FY 2012 and 7.5% is the correct Target for FY 2013.

This measure indicates the total area, in acres, that has undergone a complete remediation of the Oak Ridge Reservation by the U.S. Department of Energy. TDEC is mandated to conduct oversight of USDOE environmental restoration activities to ensure that appropriate remedial action is taken to protect the public health, welfare, and the environment. The ultimate outcome of remediation efforts is complete remediation and removal of the Oak Ridge Reservation from the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priority List. The number of acres with completed remediation is recorded in CERCLA's final Records of Decision.

327.37 Abandoned Lands

Performance Standard

Fund reclamation projects in order to eliminate the safety hazards that are posed by abandoned mine sites.

Performance Measure

Percent of emergency reclamation projects for abandoned mine sites that are stabilized or restricted from public access.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
100%	100%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

This measure represents the proportion of reclamation projects planned for and started that are completed in the fiscal year. Projects are planned on an "as needed" basis, and only sites that present an extreme danger to public health, safety, or welfare are considered for reclamation. Completed projects are tracked in a database on a monthly basis, and reviewed by the Land Reclamation section manager.

327.38 Hazardous Waste Remedial Action Fund

Performance Standard

Annually maintain at least 50% of identified hazardous substance remediation sites with cleanup in progress.

Performance Measure

Percent of identified inactive hazardous substance sites with progress during the fiscal year toward investigation and/or cleanup.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
60%	50%	50%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
69%	50%	50%

The department identifies and investigates hazardous substance sites and develops remedies to stabilize and contain these sites. This measure is calculated by dividing the total number of inactive sites with incremental progress by the total number of sites. Progress at a site is tracked in a program activity log and is reviewed by the Deputy Director.

327.39 Water Supply

Performance Standards

1. Conduct training, inspections, and enforcement actions to ensure community water system customers receive drinking water that meets all applicable health-based standards.
2. Conduct a regular program of inspections to ensure that Tennessee's public water supplies comply with the state and federal drinking health standards, and monitoring, reporting, and operational requirements, as well as construction standards to protect users' public health.

Performance Measures

1. Percent of the population served by community water systems that receive drinking water that meets all applicable health-based drinking water standards.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
96%	96%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
96.6%	100%	98%

2. Percent of the Public Water Systems that have been inspected through the Sanitary Survey Process.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
99%	99%	100%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
100%	100%	100%

The program ensures that Tennessee's public water systems comply with state and federal health standards and to protect the consumer through comprehensive oversight of water quality monitoring and water system operations. The first measure identifies the number of systems that have not met all health standards in effect and that have incurred a health-related standards violation. The data are determined using the program's monitoring data and notices of violation, both of which are stored electronically on the program's database.

The second measure determines the proportion of water systems that have had sanitary surveys performed as scheduled within the three-year timeframe for community water systems. Field office staff send the complete survey reports to the central office, and the data are entered into the program database. Both measures are reviewed by the deputy director.

327.40 Ground Water Protection

Performance Standard

Issue construction permits for subsurface sewage disposal systems where suitable soil conditions exist.

Performance Measure

Number of subsurface sewage disposal system permits issued.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
8,000	8,000	8,000

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
6,000	6,000	6,000

This measure indicates the number of subsurface sewage disposal systems located, constructed, and maintained in such a manner to protect public health. Permits are issued after an evaluation of the soil and site conditions determined that the soil and site conditions are supportive of sewage disposal. The number of permits issued is tracked using field staff activity reports and confirmed through the amount of permit fee revenue collected.

327.41 Underground Storage Tanks

Performance Standard

Inspect all active underground storage tank facilities every three years.

Performance Measure

Percent of active, registered underground storage tank facilities inspected annually.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
36%	36%	36%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
36%	36%	36%

The Underground Storage Tanks (UST) Division inspects petroleum UST facilities to ensure regulatory requirements for release detection and release prevention are properly followed to prevent releases of petroleum products detrimental to the public health and environment. The federal Energy Policy Act of 2005 requires the division to conduct inspections of all active UST facilities at a minimum three-year frequency. The inspection data are collected quarterly from the field offices, and are compared to entries in the compliance tracking database. The data are reviewed by the division's Field Operations Coordinator.

327.42 Solid Waste Assistance

Performance Standard

Increase the percentage of electronic waste collected annually at public collection sites for reuse and recycling.

Performance Measure

Percent increase of electronic waste collected annually for reuse and/or recycling.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
10%	10%	10%

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
10%	10%	10%

Electronic waste (e.g., personal computers or cell phones) contains metals with toxins that cause harm to a person's health and the environment. The program tracks the collection and recycling of this material to ensure it is being diverted from landfills. The poundage of these materials recycled is collected through each solid waste planning region's annual progress report. The data submitted are reviewed by the program's personnel.

327.43 Environmental Protection Fund

Performance Standard

Allocate fees to be used to fund environmental protection activities.

Performance Measure

Amount of fees used to fund environmental protection activities.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
$35,000,000	$35,000,000	$35,000,000

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
$35,000,000	$35,000,000	$35,000,000

The fund provides revenue to seven environmental regulatory programs in the department to operate air, water, and land protection programs and support services and to improve performance in permitting, monitoring, compliance investigation, and enforcement. The amount of funds expended is determined with a report from an Edison financial module by the department's budget director.

327.44 Fleming Training Center

Performance Standards

1. Ensure that the new operator certification process is conducted in compliance with applicable laws and regulations.
2. Ensure that the renewal operator certification process is conducted in compliance with applicable laws and regulations.

Performance Measures

1. Number of new certificates issued to water treatment, wastewater treatment, distribution system, and collection system operators.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
350	350	350

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
398	350	350

2. Number of renewal certificates issued to water treatment, wastewater treatment, distribution system, and collection system operators.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
5,100	5,100	5,100

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
5,714	5,100	5,100

The Tennessee Environmental Health Act requires the correct operation of water and wastewater systems for the protection of the public health and the quality of the environment through a system of certification of operators and penalties for noncompliance. Currently, the state—through the Fleming Training Center—offers certification in 14 fields of water and wastewater treatment, distribution, and collection systems. Certification exams are held twice per year to approximately 800 operators. Training center staff track approximately 5,900 certifications held by 4,000 individuals throughout the state in the center's information system. The Office of Environmental Assistance director verifies the data for the performance measures.

Auditor Note: After our review of the Fleming Training Center performance measure information, the audit team determined that the measures were misclassified as measures that indicate the inputs and outcomes of the program. Rather, these measures indicate the outputs of the program.

327.45 Office of Environmental Assistance

Performance Standard

Provide businesses, government, schools, and organizations training, assistance, and/or recognition to proactively assist with the prevention and reduction of adverse environmental impacts.

Performance Measure

Number of businesses, government agencies, and schools assisted.

Actual (FY 2009-2010)	Estimate (FY 2010-2011)	Target (FY 2011-2012)
3,750	3,750	5,000

Actual (FY 2010-2011)	Estimate (FY 2011-2012)	Target (FY 2012-2013)
2,091	5,000	5,000

The office helps organizations further their environmental goals with assistance, training, and recognition to assist with environmental compliance and performance. The data concerning organizations assisted are reported by program managers quarterly to the office's director. All of the data are compiled for a quarterly measurement.

Auditor Note: After our review of the Office of Environmental Assistance performance measure information, the audit team determined that the measure was misclassified as a measure that indicates the outcomes of the program. Rather, this measure indicates the outputs of the program.

Appendix 3
Solid Waste Disposal Facility Evaluation Form
(See page 95)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT
SOLID WASTE DISPOSAL FACILITY EVALUATION

NAME OF SITE	REGISTRATION NUMBER	DATE
LOCATION (physical)	PURPOSE ( ) Complete ( ) Follow-up ( ) Complaint ( ) Other	
OWNER/OPERATOR	TYPE OF FACILITY ( ) CLASS 1 ( ) CLASS II ( ) CLASS III ( ) CLASS IV	

		V1	V2
Inadequate vector control	8010	____	____
Access not limited to operating hours	8020	____	____
Inadequate artificial or natural barrier	8030	____	____
Inadequate information signs	8040	____	____
Unsatisfactory access road(s)/parking area(s)	8050	____	____
Certified personnel not present during operating hours	8060	____	____
Unapproved salvaging of waste	8070	____	____
Evidence of open burning	8080	____	____
Inadequate fire protection	8090	____	____
Unsatisfactory litter control	8110	____	____
Inadequate employee facilities	8120	____	____
No communication devices	8130	____	____
Inadequate operating equipment	8140	____	____
Unavailability of backup equipment	8150	____	____
Unavailability of cover material	8160	____	____
Inadequate maintenance of runon/runoff system(s)	8170	____	____
Inadequate erosion control	8180	____	____
Inadequate dust control	8190	____	____
Unauthorized waste accepted	8210	____	____
Unapproved special waste accepted	8220	____	____
Tires improperly handled	8230	____	____
Medical waste improperly handled	8240	____	____
Dead animals improperly handled	8250	____	____
Washout of solid waste	8270	____	____
No permanent benchmark	8280	____	____
Inadequate random inspection program	8290	____	____
Mishandling of special waste	8300	____	____
Buffer zone standard violated	8310	____	____
Inadequate maintenance of leachate management system	8320	____	____

		V1	V2
Leachate improperly managed	8330	____	____
Inadequate leachate collection system	8340	____	____
Leachate observed at the site	8350	____	____
Leachate entering runoff	8360	____	____
Leachate entering a water course	8370	____	____
Inadequate gas migration control system	8380	____	____
Inadequate maintenance of gas migration control system	8390	____	____
Potential for explosions or uncontrolled fires	8420	____	____
Waste not confined to a manageable area	8430	____	____
Improper spreading of waste	8440	____	____
Improper compacting of waste	8450	____	____
Unsatisfactory initial cover	8460	____	____
Unsatisfactory intermediate cover	8470	____	____
Unsatisfactory final cover	8480	____	____
Excessive pooling of water	8490	____	____
Unsatisfactory stabilization of cover	8510	____	____
Dumping of waste into water	8520	____	____
Unsatisfactory records or reports	8530	____	____
Groundwater monitoring system improperly maintained	8540	____	____
Operation does not correspond with engineering plans	8570	____	____
Operation does not correspond with permit condition(s)	8580	____	____
Permit, plans, operating manual not available	8590	____	____
No operating scales	8610	____	____

COMMENTS:

PERSON INTERVIEWED (Signature)	INSPECTED BY (Signature)
TITLE	TITLE

TIME OF DAY	WEATHER CONDITIONS	COMPLIANCE DATE

Distribution: Facility - White Field Office - Canary Central Office - XC

CN-0761 (Rev. 7-98) RDAs 2202 and 2499

Appendix 4 – Exhibit to Management's Response to Finding 2
Review of Class I Solid Waste Landfill Inspections for 2010 and 2011

ID	Total # Inspections 2010	Number of Months Covered 2010	Total # Inspections 2011	Number of Months Covered 2011	Average # of Days Between Inspections over 2 years
SNL010000160	11	10	13	12	30
SNL030000247	14	10	11	9	29
SNL050000105	11	11	11	11	33
SNL060000006	9	10	12	12	35
SNL140000250	10	11	12	12	33
SNL180000212	11	11	11	10	33
SNL180000254	12	9	14	10	28
SNL210000243	11	12	12	12	32
SNL230000218	11	11	11	11	33
SNL320000152	8	9	12	12	37
SNL320000280	9	10	14	12	32
SNL330000273	10	11	12	12	33
SNL350000223	7	8	6	6	56
SNL370000185	11	12	12	12	32
SNL450000241	10	11	12	10	33
SNL530000203	16	12	15	11	24
SNL540000003	10	11	12	12	33
SNL540000174	10	9	13	12	32
SNL570000239	10	11	11	10	35
SNL580000197	10	11	12	12	33
SNL630000108	12	11	32	12	17
SNL660000143	7	8	8	8	49
SNL660000276	9	8	10	9	38
SNL690000244	10	11	12	12	33
SNL720000269	11	12	13	12	30
SNL750000219	12	12	13	12	29
SNL760000271	6	7	12	12	41
SNL780000258	11	11	12	12	32
SNL790000135	15	12	10	9	29
SNL790000224	20	10	12	11	23
SNL800000227	10	11	12	12	33
SNL900000262	11	12	12	11	32
SNL930000136	11	12	12	12	32
Average	10.8	10.5	12.4	11.0	33
Monthly Inspection Rate	**2010**	**87.63%**	**2011**	**91.92%**	

Note: The Department of Environment and Conservation prepared and submitted this appendix as part of its response to Finding 2. State Audit has not audited this information.