

Audit Report

---

**Department of the Environment**

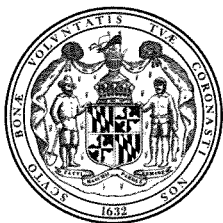
January 2015

---



**OFFICE OF LEGISLATIVE AUDITS**  
**DEPARTMENT OF LEGISLATIVE SERVICES**  
**MARYLAND GENERAL ASSEMBLY**

- 
- This report and any related follow-up correspondence are available to the public through the Office of Legislative Audits at 301 West Preston Street, Room 1202, Baltimore, Maryland 21201. The Office may be contacted by telephone at 410-946-5900, 301-970-5900, or 1-877-486-9964.
  - Electronic copies of our audit reports can be viewed or downloaded from our website at <http://www.ola.state.md.us>.
  - Alternate formats may be requested through the Maryland Relay Service at 1-800-735-2258.
  - The Department of Legislative Services – Office of the Executive Director, 90 State Circle, Annapolis, Maryland 21401 can also assist you in obtaining copies of our reports and related correspondence. The Department may be contacted by telephone at 410-946-5400 or 301-970-5400.
-



DEPARTMENT OF LEGISLATIVE SERVICES  
OFFICE OF LEGISLATIVE AUDITS  
MARYLAND GENERAL ASSEMBLY

Karl S. Aro  
Executive Director

Thomas J. Barnickel III, CPA  
Legislative Auditor

January 6, 2015

Delegate Guy J. Guzzone, Co-Chair, Joint Audit Committee  
Senator James C. Rosapepe, Co-Chair, Joint Audit Committee  
Members of Joint Audit Committee  
Annapolis, Maryland

Ladies and Gentlemen:

We have conducted a fiscal compliance audit of the Maryland Department of the Environment (MDE) for the period beginning July 1, 2010 and ending July 29, 2013. MDE is responsible for protecting and restoring the quality of the State's land, air, and water resources, and safeguarding the public from health risks associated with pollution.

Adequate procedures were not established over the Lead Poisoning Prevention Program to monitor properties affected with lead paint and to collect related revenues. For example, MDE did not identify all owners who had failed to renew their prior year registrations, and follow-up actions, including assessing penalties, were not sufficient. Furthermore, MDE did not establish a process to ensure that registered rental properties affected by lead paint had an inspection certificate, as required by State regulations. According to MDE's records, there were 94,735 rental dwelling units in registered properties as of June 30, 2013 and related collections for registration and renewal fee revenue totaled approximately \$2.8 million for fiscal year 2013.

Procedures over the Bay Restoration Fund's Septic System Program were not sufficient to ensure that local jurisdictions were complying with Program requirements regarding septic system grants and that annual septic system operation and maintenance reports were submitted. In addition, certain construction sites were not inspected in accordance with environmental regulations regarding erosion and sediment control.

Finally, several security and control deficiencies were noted over certain critical databases.

An executive summary of our findings can be found on page 5. MDE's response to this audit is included as an appendix to this report. We wish to acknowledge the cooperation extended to us during the course of this audit by MDE.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas J. Barnickel III". The signature is written in a cursive style with a large initial "T" and a stylized "B".

Thomas J. Barnickel III, CPA  
Legislative Auditor

## Table of Contents

<b>Executive Summary</b>	5
<b>Background Information</b>	7
Agency Responsibilities	7
Financial Statement Audits	7
Status of Findings From Preceding Audit Report	8
<b>Findings and Recommendations</b>	9
<b>Lead Poisoning Prevention Program</b>	
*    Finding 1 – Procedures to Ensure Properties Were Registered and Fees Paid Were Not Sufficient	9
Finding 2 – MDE Did Not Have a Process to Ensure That Owners With Affected Properties Had a Required Inspection Certificate	11
<b>Bay Restoration Fund – Septic System Program</b>	
Finding 3 – Local Jurisdictions Were Not Required to Submit Critical Documentation and Certain Monitoring Processes Were Insufficient	13
Finding 4 – MDE Had Not Performed Documented Verifications to Ensure That All Annual Operations and Maintenance Reports Were Submitted	14
<b>Inspections</b>	
*    Finding 5 – Inspections of Certain Construction Sites Were Not Being Performed as Required	16
<b>Information Systems Security and Control</b>	
Finding 6 – Monitoring, Access, and Update Controls over Certain Databases Were Not Sufficient	17
<b>Audit Scope, Objectives, and Methodology</b>	19
<b>Agency Response</b>	Appendix

\* Denotes item repeated in full or part from preceding audit report



# Executive Summary

## Legislative Audit Report on the Maryland Department of the Environment (MDE) January 2015

- **Adequate procedures were not established over the Lead Poisoning Prevention Program to monitor properties affected with lead paint and to collect related revenues. MDE did not use available reports to help identify all owners who had failed to renew their prior year registrations and follow-up actions, such as sending notices and assessing penalties on property owners failing to renew, were not sufficient. According to MDE's records, there were 94,735 rental dwelling units in registered properties as of June 30, 2013 and related collections for registration and renewal fee revenue totaled approximately \$2.8 million for fiscal year 2013 (Finding 1).**

MDE should formalize recommended procedures over the Lead Poisoning Prevention Program, including identifying and pursuing property owners who fail to register affected lead paint properties and pay the annual registration fee.

- **MDE did not establish a process to ensure that registered rental properties affected by lead paint had an inspection certificate, as required by State regulations. MDE did not compare registration records to certification records to ensure that owners with registered properties also had the required inspection certificate. Our comparison of these records disclosed 9,967 owners with one or more properties registered that did not have a corresponding inspection certificate on file (Finding 2).**

MDE should develop and implement procedures to identify owners without the required inspection certificates and take appropriate action.

- **Procedures over the Bay Restoration Fund's Septic System Program were not sufficient to ensure that local jurisdictions were complying with Program requirements and guidelines. For example, critical documentation relating to septic installations was not required to be submitted by the local jurisdictions as part of their reimbursement requests. In addition, MDE did not always obtain adequate bid documentation from the local jurisdictions (Finding 3).**

MDE should take the recommended actions to ensure that local jurisdictions are complying with Program requirements and guidelines.

- **MDE did not perform documented verifications to ensure that all annual operation and maintenance reports were received on septic system installations and did not follow up with service providers who failed to submit required reports. Bay Restoration Funding (BRF) requirements mandate that a five-year operation and maintenance service be performed for septic installations. We noted that, for 528 of the 653 BRF funded septic installations in fiscal year 2012, MDE did not indicate receipt of the operation and maintenance report in its database (Finding 4).**

MDE should ensure that its database is accurately and timely maintained by recording and retaining annual operation and maintenance reports and should establish a documented process to follow up with service providers who do not submit required reports.

- **Inspections of certain construction sites were not always performed as required by State regulations designed to lessen the impact of sediment leaving the sites and to prevent erosion, pollution, and local flooding (Finding 5).**

MDE should take action to comply with regulations regarding site inspections.

- **Several security and control deficiencies were noted with regard to MDE's comprehensive data management system (TEMPO) and the Public and Private Drinking Water Information System (PPDW). For example, there was no documentation supporting the review of security reports, and certain database users had unnecessary access to certain powerful functions (Finding 6).**

MDE should take the recommended actions to improve information systems security and control.



## **Background Information**

### **Agency Responsibilities**

The Maryland Department of the Environment (MDE) was created to protect and restore the quality of the State's land, air, and water resources, and to safeguard the public from health risks associated with pollution. MDE's duties and responsibilities include enforcing applicable laws and regulations, conducting long-term planning and research, and assisting industries and communities in their efforts to handle pollution, waste disposal, and emergency spills of waste or oil. MDE consists of the following units:

- Office of the Secretary (including the Maryland Water Quality Financing Administration)
- Operational Services Administration
- Water Management Administration
- Science Services Administration
- Land Management Administration
- Air and Radiation Management Administration
- Coordinating Offices

The Maryland Water Quality Financing Administration administers the Water Quality and Drinking Water Revolving Loan Funds and the Bay Restoration Fund Wastewater Treatment and Septic System grants programs.

According to the State's records, during fiscal year 2013, MDE's operating and capital expenditures totaled approximately \$464.7 million. These expenditures were funded by general funds totaling approximately \$32.4 million, special funds totaling approximately \$340.7 million, federal funds totaling approximately \$78 million, and reimbursable funds totaling approximately \$13.6 million. MDE's capital expenditures primarily related to its Water Quality and Drinking Water Revolving Loan Funds and the Bay Restoration Fund; these capital expenditures totaled approximately \$236.5 million and \$109.7 million, respectively.

### **Financial Statement Audits**

MDE engaged an independent accounting firm to perform audits of the Maryland Water Quality Financing Administration's financial statements for the Water Quality and Drinking Water Revolving Loan Funds and the Bay Restoration Fund for the fiscal years ended June 30, 2011, 2012, and 2013. In the related audit reports, the firm stated that the Administration's financial statements presented fairly, in all material respects, the financial position of the Administration and its changes in financial position and its cash flows for the years then ended in

accordance with the accounting principles generally accepted in the United States of America. According to the financial statements, as of June 30, 2013, the Maryland Water Quality Financing Administration's net position totaled approximately \$1.3 billion.

The Maryland Water Quality Financing Administration provides a combination of federal and State funds for low-interest loans to local jurisdictions and private entities throughout the State for drinking water and water quality capital projects. These projects include upgrades and expansions to wastewater treatment plants, and pump stations and creation of storm water management facilities. Additionally, the Administration provides Bay Restoration Fund grants for enhanced nutrient removal upgrades to existing wastewater facilities, for sewer infrastructure rehabilitation, and for septic system upgrades.

### **Status of Findings From Preceding Audit Report**

Our audit included a review to determine the status of nine of the ten findings contained in our preceding audit report dated November 21, 2011. We determined that MDE had satisfactorily resolved seven findings. The remaining two findings are repeated in this report.

We did not review the status of the prior finding relating to hazardous materials facilities. Due to federal regulations developed by the U.S. Department of Homeland Security (DHS), we were not permitted access to certain documentation critical to the finding. Specifically, this documentation is considered to be Chemical-terrorism Vulnerability Information (CVI) which requires special training and approval to be obtained through DHS. We confirmed with legal counsel to the Maryland General Assembly that the aforementioned information is considered CVI and, accordingly, we did not assess the status of this prior finding.

# Findings and Recommendations

## Lead Poisoning Prevention Program

### Background

The Lead Poisoning Prevention Program was established to oversee activities designated to reduce the incidence of childhood lead poisoning and is funded through various fees required by State law collected by the Maryland Department of the Environment (MDE). State law generally requires that owners of affected lead paint properties that were constructed before 1950 to register the properties annually with MDE, meet specific lead paint reduction standards, and pay an annual \$30 fee for each rental dwelling unit.

MDE's Online Lead Rental Registration system (OLRR) includes all registration and renewal information, such as property and payment information, for each owner. This information is recorded by the owners through online registrations and by MDE through paper registrations. According to MDE's records, there were 94,735 rental dwelling units constructed before 1950 in registered properties as of June 30, 2013. During fiscal year 2013, the related registration and renewal fee revenue totaled approximately \$2.8 million.

In our preceding two audit reports, we recommended that MDE investigate property owners who fail to register affected lead paint properties and take appropriate action to ensure the owners register the properties and pay any registration fees owed to MDE. In response to our preceding report, MDE initiated a mass mailing in September 2012 to approximately 15,900 owners who had failed to renew for one or more years between renewal years 2005 and 2012 and, as a result, collected \$504,000 in registration fees.

Chapter 387, Laws of Maryland, 2012, effective January 1, 2015, will extend the aforementioned registration and renewal requirements to properties constructed before 1978. According to the Department of Legislative Services' fiscal note to the originating legislation, approximately 330,000 rental units were built between 1950 and 1978.

### **Finding 1**

**Procedures to ensure properties were registered and related fees were paid were not sufficient.**

### **Analysis**

MDE had not established sufficient procedures to ensure affected properties were registered and related fees were paid. For example, MDE did not identify all

owners who failed to renew their property registrations or establish a comprehensive follow-up process, including assessing penalties.

- MDE did not establish formal procedures to identify owners who failed to annually renew their property registrations and pay the required registration fees so that follow-up actions could be taken. The OLRR produces a pending payment report of owners identified by MDE who have not renewed their registrations. However, this report was not effectively used by MDE to help identify all owners who had not registered. For example, the pending payment report of owners with outstanding 2013 renewals identified 8,461 owners with one or more properties who had failed to file a registration renewal for the 2013 renewal year (due December 31, 2012) as of December 26, 2013. However, we noted that 1,136 of the 8,461 pending payments had not been recorded in MDE's separate database used to track the status of each owner who had not registered and the related follow-up actions; accordingly, MDE had not identified these owners as not filing a renewal for the 2013 renewal. A similar condition was commented upon in our preceding two audit reports.
- MDE did not establish a consistent, comprehensive follow-up process for owners who were identified and failed to renew property registrations during the 2013 renewal year and the aforementioned September 2012 mass mailing. For example, MDE did not always send out periodic follow-up letters. We reviewed 16 of the owners that were being tracked in the database and noted that, for 6 owners, there was no indication of any follow-up actions being taken by MDE regarding the 2013 renewal. In addition, while MDE resolved most of the cases involving the 15,900 owners who failed to renew for one or more years, approximately 6,600 owners still remained outstanding as of December 2013, many of which also had not paid the 2013 renewal. Our review of 15 of the 6,600 open cases from the mass mailing disclosed that there was no indication of any activity by MDE after the initial letter for 9 cases.
- MDE did not establish a policy specifying when to refer owners to the enforcement unit and when to assess civil and administrative penalties. In addition, referrals to the enforcement unit were not recorded and tracked. According to State law, owners who fail to file and pay their annual renewals by the due date are liable for a civil penalty up to triple the amount of the renewal fee. State law further states that MDE shall impose an administrative penalty of up to \$20 per property per day for owners who fail to file a registration renewal within 90 days of the due date. Although MDE's legal counsel (with concurrence from the General Assembly's legal counsel) has advised that State agencies generally have discretion in the assessment of penalties in consideration with other enforcement activities, MDE did not

have a defined enforcement policy that considered and incorporated the appropriate use of such penalties for registration matters.

We noted that MDE did not assess civil and/or administrative penalties to the 15,900 owners identified during the aforementioned mass mailing and to the 610 owners who, according to the tracking database, paid their registration fee late for the 2013 renewal year. Based on our review of 30 of these owners, we conservatively estimated that MDE could have assessed as much as \$143,775 in civil fees and more than \$1.7 million in administrative penalties.

According to MDE records, 44 owners were assessed civil penalties totaling \$22,000 in fiscal year 2013 and none were assessed administrative penalties.

According to our analysis of MDE's tracking database as of December 2013, the cases associated with 13,598 owners have closed since September 2012, resulting in approximately \$834,000 (including the aforementioned \$504,000) in registration fee collections, and there were 8,637 owners with open cases pending further follow-up by MDE. Subsequent to our fieldwork, MDE began drafting its formal procedures to identify and follow up on owners who do not register.

### **Recommendation 1**

**We recommend that MDE**

- a. formalize procedures to identify and pursue property owners who fail to register affected lead properties and pay the annual registration fee, including effectively using the pending payment reports (repeat);**
- b. investigate the aforementioned property owners to determine if any fees are owed;**
- c. establish a policy to determine when to make referrals to enforcement and to assess penalties; and**
- d. establish a process to track cases referred to enforcement.**

### **Finding 2**

**MDE did not have a process to ensure that owners with affected properties had a required inspection certificate.**

### **Analysis**

MDE did not have a process to ensure that owners who have registered properties affected by lead paint had the required inspection certificate. Specifically, MDE did not compare the registered properties in OLRR to its inspection certification database to identify missing certificates or determine whether those without an inspection certificate are required to obtain it.

We obtained a report from OLRR, as of February 11, 2014, that included all active properties with a construction date prior to 1950. This report included 27,111 owners with one or more affected properties. We compared this report to a report of certificates recorded in the certification database from calendar years 2008 through 2013. Our comparison disclosed that 9,967 owners with one or more properties in the OLRR did not have any inspection certificates recorded in the certification database. While not all registered properties require an owner to have an inspection certificate (for example, unoccupied properties), MDE should investigate these owners and take appropriate actions since the database does not designate which properties require them.

State law requires that an owner of an affected property initially satisfy the risk reduction standard established by passing the test for lead-contaminated dust. The owner is also required to have the property inspected at each change in occupancy to verify that the risk reduction standard has been satisfied. State regulations require that registered rental properties affected by lead paint have an inspection certificate. MDE records these inspections in its certification database. State law further allows for penalties, not to exceed \$500 per day, for violations of its provisions and procedures.

#### **Recommendation 2**

##### **We recommend that MDE**

- a. establish procedures to ensure that owners with affected properties have an inspection certificate when required, and**
- b. investigate the aforementioned 9,967 owners without any recorded inspection certificates and take appropriate action.**

## **Bay Restoration Fund - Septic System Program**

### **Background**

The Bay Restoration Fund (BRF) enabling legislation, which became effective July 1, 2004, established the Wastewater Treatment Program and the Septic System Program to further Maryland's efforts to reduce nitrogen and phosphorus loading in the Chesapeake Bay. The Septic System Program is funded by an annual fee on each property served by an onsite well and septic system, which is \$60 for most users. Funds collected are to be used to upgrade or replace existing septic systems or to install new septic systems with the best available technology (BAT) for nitrogen removal, which reduces the septic system's nitrogen load in half. According to State law, funding priorities for septic upgrades are first given to failing septic systems in the Chesapeake and Atlantic Coastal Bay Critical Area and then to failing septic systems that MDE determines are a threat to public health or water quality. Maryland Regulations established under the aforementioned law further require that, effective January 1, 2013, all new

residential and non-residential construction situated outside the Critical Area also use the BAT.

Effective July 1, 2010, MDE delegated the awarding of septic system projects to the 24 local jurisdictions (primarily local health departments) to process septic grant applications, to determine eligibility, to make awards, and to ensure that qualified septic systems were installed in accordance with Septic System Program requirements and guidelines set forth by MDE. Funding for septic systems (including new and replacement systems) is provided directly to the vendors by the local jurisdictions and MDE subsequently reimburses the local jurisdictions from the BRF.

According to MDE's records, there are approximately 421,750 septic systems in Maryland, of which approximately 51,500 are located within the Critical Area. As of September 30, 2013, MDE has awarded Septic System Program funding to upgrade 4,507 septic systems, of which 2,868 systems were located within the Critical Area. According to the MDE's *BRF Annual Status Report* dated January 2014, approximately \$64.8 million in septic grants have been awarded since the Program was established. As of June 30, 2013, according to the State's records, the balance in the BRF related to the Septic System Program was approximately \$8.8 million.

### **Finding 3**

**MDE's guidelines and agreements with local jurisdictions for the Septic System Program did not require critical documentation to be submitted and certain monitoring processes were not sufficient.**

### **Analysis**

MDE's guidelines and agreements with the 24 local jurisdictions did not require critical documentation, such as inspection reports, to be submitted and certain monitoring processes were not sufficient to ensure that local jurisdictions were complying with program requirements. According to MDE records, payments to the local jurisdictions for the Septic System Program totaled approximately \$11.4 million for 866 septic installations during fiscal year 2013.

- Although State regulations require installed septic systems to be inspected, MDE's guidelines and agreements with the local jurisdictions did not require them to submit the inspection reports with their funding reimbursement requests. The purpose of the inspection is to ensure that the septic system installation was proper, including system type and location. Our review of 30 large grants awarded in fiscal years 2012 and 2013 totaling approximately \$621,000 disclosed that, for 15 of the awards totaling \$300,000, the inspection reports were not included in the reimbursement requests, although we

subsequently obtained them directly from the local jurisdictions. For the remaining 15 awards, the local jurisdictions submitted the inspection reports even though they were not required. We were subsequently advised that, effective October 2013, MDE began making site visits to local jurisdictions to review documentation supporting reimbursement requests for septic installations on a test basis; however, no results were available at that time. We continue to believe that it is more effective for MDE to obtain inspection reports at the time the local jurisdictions submit their reimbursement requests. However, if MDE reviews this documentation during site visits, MDE should ensure that a sufficient number of inspection reports is reviewed and that evidence (such as, inspection reports) is retained to substantiate the reviews performed and results.

- MDE did not always obtain adequate bid documentation, when required, from local jurisdictions. Three bids must be obtained according to grant guidelines and agreements when performing a competitive procurement. During the aforementioned review of 30 grant awards, we determined that 11 of these awards totaling approximately \$388,000 required competitive procurement because pre-approved vendors were not used. For 9 of these awards totaling \$312,400, MDE did not obtain all three bids as required or the bids received lacked the vendors' signatures, providing authenticity to the bid documentation.

### **Recommendation 3**

**We recommend that MDE ensure the local jurisdictions are administering the Septic System Program in accordance with established requirements and guidelines. Specifically, we recommend that MDE**

- a. establish requirements to substantiate that the local jurisdictions are obtaining inspection reports, when required; and**
- b. obtain bid documentation that substantiates that a valid, competitive process was used.**

### **Finding 4**

**MDE had not performed documented verifications to ensure that all annual operation and maintenance reports were submitted by service providers.**

### **Analysis**

MDE had not performed documented verifications to ensure that annual operation and maintenance (O&M) reports on BRF-funded septic system installations were submitted by service providers. The internal tracking database for O&M reports was incomplete and, therefore, could not be used to effectively track and identify non-filers.



- Although MDE used an internal tracking database to record septic installations, the receipt of O&M reports was often not recorded in the database and no other process had been established to ensure that the service providers submitted all required annual O&M reports. As of October 7, 2013, the database indicated that, for 528 of the 653 septic systems installed in fiscal year 2012, no O&M reports were recorded as being received prior to the one-year anniversary of the installation as required and there was no evidence of any follow-up. We found similar results in our analysis for fiscal year 2011 installations. For 9 selected septic installations from fiscal year 2011, no O&M reports were recorded in the database as being received for any of the 22 required inspection dates as of October 7, 2013. After our inquiry, MDE was able to obtain 19 of the 22 O&M reports.
- In instances in which O&M inspection dates had been recorded in the tracking database, MDE did not always retain the related reports and ensure the dates were accurately recorded. We requested 35 O&M reports to support inspection dates recorded in the database relating to 16 septic installations that occurred during the period from August 2009 through August 2012. MDE was unable to provide 20 of the O&M reports.

State regulations generally require that a certified service provider report on the inspection, operation, and maintenance of septic systems to MDE on an annual basis prior to the yearly anniversary from the date of installation. The cost of the O&M reports for the first five years of service is included on the initial septic installation purchase price, as required by MDE. This fee varies depending on the size and type of septic system installed; based on our review of 21 invoices for septic installation, the O&M fee ranged from \$900 to \$2,500 for the five-year period. State regulations require that installed septic systems be inspected annually to ensure that systems are operating effectively and efficiently to reduce nitrogen loads. According to MDE's records, during fiscal year 2013, MDE provided approximately \$11.4 million for 866 septic installations.

#### **Recommendation 4**

**We recommend that MDE**

- ensure that the database is accurately and timely maintained by recording all O&M reports in the database and retaining the supporting reports, and**
- establish a documented process to follow up with service providers who do not submit required reports on a timely basis.**

## Inspections

### **Finding 5**

**Inspections of certain construction sites were not being performed on average of once every two weeks, as required by State regulations.**

### **Analysis**

Inspections of certain construction sites were not performed in accordance with State regulations. Specifically, State regulations require that construction activity that disturbs more than 5,000 square feet of land or that results in more than 100 cubic yards of earth movement must have an MDE approved erosion/sediment control plan before construction begins. The purpose of these plans is to lessen the impact of sediment leaving construction sites and to prevent stream channel erosion, pollution, and local flooding. For every active erosion and sediment control plan, State regulations also require that MDE perform on-site inspections for compliance with these regulations on average of once every two weeks. According to MDE records, there were 1,774 on-site inspections performed during fiscal year 2013, resulting in 50 violations deemed significant; however, as of June 30, 2013, there were 13,440 active plans MDE was responsible for inspecting. We determined, based on a review of MDE's detailed records, that the records of approvals and inspections performed were reliable for our purposes.

We were advised by MDE management that these inspections should be frequent because of the continuously evolving land conditions of active construction sites. However, MDE management also advised us that it does not have a sufficient number of inspectors to meet the inspection requirements and estimates that it would take an additional 47 inspectors to inspect each site just once a year. As a result, MDE stated that it prioritizes on-site inspections based on citizen complaints and the size of the construction sites.

A similar condition was commented upon in our preceding audit report. MDE responded to this recommendation that it would evaluate existing resources and consider whether it is appropriate to propose changes to the regulatory requirement. During the current audit, we were advised by management that MDE did not attempt to request additional inspection positions because it did not believe it would be approved. We were also advised that MDE did not pursue modifying inspection regulations due to anticipated environmental community concerns.

According to MDE's records, during fiscal year 2013, approximately \$812,000 was collected from administrative and civil penalties resulting from violations found during inspections.

### **Recommendation 5**

**We recommend that MDE take action to comply with State regulations regarding inspections of the aforementioned construction sites. If MDE determines that the inspection requirement cannot be achieved with current resources, MDE should either seek additional resources through the budget process or pursue modifying the State regulations to include a risk-based approach (repeat).**

## **Information Systems Security and Control**

### **Background**

MDE maintains an internal computer network with related servers and workstations. Key network resources include MDE's website, e-mail, Internet connectivity, a firewall, and various significant applications.

MDE maintains a comprehensive data management system entitled Tools for Environmental Management and Protection of Organizations (TEMPO), which utilizes a unified approach to data collection and reporting. TEMPO encompasses numerous business applications and their related data such as hazardous waste and air quality monitoring and control. In addition, MDE operates other legacy application database systems, such as the Public and Private Drinking Water Information System (PPDW), which is used by the Water Management Administration for permitting and monitoring the State's public drinking water supply and keeping data on drinking water sources and treatment plants.

### **Finding 6**

**Monitoring, access, and update controls over the TEMPO and PPDW databases were not sufficient.**

### **Analysis**

Monitoring, access and update controls over the TEMPO and PPDW databases were not sufficient.

- MDE personnel advised us that they reviewed the security reports for the TEMPO and PPDW databases on a weekly basis; however, our review disclosed that there was no documentation supporting these reviews. Therefore, assurance was lacking that these reviews were performed. The State of Maryland Department of Information Technology (DoIT) *Information Security Policy* requires that information systems must generate audit records for all security-relevant events and that review procedures be developed to review these records for indications of unusual and suspicious activities and report findings to appropriate officials.

- The TEMPO and PPDW databases were running database versions that were no longer supported by the database vendor. For example, the version of the database run for the PPDW system has not been supported by the vendor since December 31, 2006. As a result, the database vendor was no longer monitoring or issuing patches for newly discovered security vulnerabilities for the respective database versions in use. Therefore, the use of these out-of-date databases may expose MDE to security vulnerabilities discovered since their respective end-of-support dates, which could create security and control issues.
- A default database role that was granted to all TEMPO database users had unnecessary access to certain powerful programs which potentially enabled these database users to execute functions which they would not normally be allowed to execute. These functions could be used to circumvent security controls. The database vendor recommends that this default role not be granted access to these powerful programs.
- An insecure service was enabled on the TEMPO database that could allow users to run commands as a privileged user. This service was intended only to accept requests from the database server but, local users on the server hosting this database, could execute commands using this service without authentication.

### **Recommendation 6**

#### **We recommend that MDE**

- a. properly document all reviews of database security reports and retain this documentation for audit verification purposes,**
- b. ensure that its databases are fully supported by the database vendors and kept current for all critical security related updates,**
- c. limit the aforementioned default database role's access to only those programs which are required for database operations, and**
- d. delete this insecure service on the TEMPO database.**

## **Audit Scope, Objectives, and Methodology**

We have conducted a fiscal compliance audit of the Maryland Department of the Environment (MDE) for the period beginning July 1, 2010 and ending July 29, 2013. The audit was conducted 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.

As prescribed by the State Government Article, Section 2-1221 of the Annotated Code of Maryland, the objectives of this audit were to examine MDE's financial transactions, records and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of significance and risk. The areas addressed by the audit included certain special funded programs (such as the Bay Restoration Fund Septic System grants); federal fund recoveries; permitting, inspections, and violation assessments; procurements and disbursements; critical information technology systems; accounts receivable; and payroll. We also determined the status of nine of the ten findings contained in our preceding audit report.

To accomplish our audit objectives, our audit procedures included inquiries of appropriate personnel, inspections of documents and records, observations of MDE's operations and tests of transactions. We also performed various data extracts of pertinent information from the State's Financial Management Information System (such as revenue and expenditure data) and the State's Central Payroll Bureau (payroll data). The extracts are performed as part of ongoing internal processes established by the Office of Legislative Audits and were subject to various tests to determine data reliability. We determined that the data extracted from these various sources were sufficiently reliable for the purposes the data were used during this audit. We also extracted data from MDE's permit, registration, and enforcement systems for the purpose of testing transactions and system access. We performed various tests of the relevant data and determined that the data were sufficiently reliable for the purposes the data were used during the audit. Finally, we performed other auditing procedures that we considered necessary to achieve our audit objectives. The reliability of data used in this report for background or informational purposes was not assessed.

MDE engaged an independent accounting firm to perform audits of the Maryland Water Quality Financing Administration's financial statements for the fiscal years ended June 30, 2011, 2012, and 2013. In the related audit reports, the firm stated that

the Administration's financial statements presented fairly, in all material respects, the financial position of the Administration and its changes in financial position and its cash flows for the years then ended in accordance with the accounting principles generally accepted in the United States of America. We performed certain steps to satisfy ourselves as to the reliability of the reported results of the independent audits of the Maryland Water Quality Financing Administration. Accordingly, we have relied on the work of the independent accounting firm to provide audit coverage of certain aspects of the Maryland Water Quality Financing Administration's operations (internal controls and testing for the water quality and drinking water revolving loan fund programs). Our audit procedures in these areas were generally limited, therefore, to obtaining a sufficient basis for that reliance. Finally, our audit did not include an evaluation of internal controls or an assessment of MDE's compliance with federal laws and regulations pertaining to federal financial assistance programs because the State of Maryland engages an independent accounting firm to annually audit such programs administered by State agencies, including MDE.

MDE's management is responsible for establishing and maintaining effective internal control. Internal control is a process designed to provide reasonable assurance that objectives pertaining to the reliability of financial records, effectiveness and efficiency of operations including safeguarding of assets, and compliance with applicable laws, rules, and regulations are achieved.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

Our reports are designed to assist the Maryland General Assembly in exercising its legislative oversight function and to provide constructive recommendations for improving State operations. As a result, our reports generally do not address activities we reviewed that are functioning properly.

This report includes findings relating to conditions that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect MDE's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes findings regarding significant instances of noncompliance with applicable laws, rules, or regulations. Other less significant findings were communicated to MDE that did not warrant inclusion in this report.

MDE's response to our findings and recommendations is included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise MDE regarding the results of our review of its response.

APPENDIX



**MARYLAND DEPARTMENT OF THE ENVIRONMENT**

1800 Washington Boulevard • Baltimore MD 21230

410-537-3000 • 1-800-633-6101 • [www.mde.maryland.gov](http://www.mde.maryland.gov)

Martin O'Malley  
Governor

Robert M. Summers, Ph.D.  
Secretary

Anthony G. Brown  
Lieutenant Governor

December 12, 2014

Mr. Thomas J. Barnickel III, CPA  
Legislative Auditor  
State of Maryland  
Office of Legislative Audits  
State Office Building, Room 1202  
301 West Preston Street  
Baltimore, MD 21201

Dear Mr. Barnickel,

Please find attached the Maryland Department of the Environment's (MDE) response to the draft audit report dated November 2014. As requested, an electronic version of this document has also been sent to your office ([response@ola.state.md.us](mailto:response@ola.state.md.us)) via e-mail.

I would like to thank you and your staff for reviewing MDE's business practices and providing constructive recommendations as a result of this audit. Please note that MDE will take the steps described in our response to resolve the findings identified in this audit report. These efforts reflect MDE's unwavering commitment to utilize the resources provided to the Department by the Governor and legislature to serve Maryland citizens and safeguard the outstanding environmental resources of our state in the most effective and efficient manner possible.

If you and your staff have any questions or need additional information, please contact me at 410-537-3084 or Mr. Wayne Nelms, MDE's Internal Audit Manager, at 410-537-3429.

Sincerely,

Robert M. Summers, Ph.D.  
Secretary

Enclosure

cc: Senator James C. Rosapepe, Co-Chair Joint Audit Committee  
Delegate Guy J. Guzzone, Co-Chair, Joint Audit Committee  
Karl S. Aro, Executive Director, Department of Legislative Services  
Kathy M. Kinsey, Deputy Secretary, Operations and Regulatory Programs, MDE  
Wayne S. Nelms, Manager, Office of Internal Audit, MDE

**Finding 1**

**Procedures to ensure properties were registered and related fees were paid were not sufficient.**

**Recommendation 1**

**We recommend that MDE**

- a. formalize procedures to identify and pursue property owners who fail to register affected lead properties and pay the annual registration fee, including effectively using the pending payment reports (repeat);**
- b. investigate the aforementioned property owners to determine if any fees are owed;**
- c. establish a policy to determine when to make referrals to enforcement and to assess penalties; and**
- d. establish a process to track cases referred to enforcement.**

***MDE's Response:***

*MDE partially concurs with the finding, but does not believe it should be classified as a repeat.*

*In 2011, the Department agreed to expand the renewal mail out in an effort to address non-compliant property owners. This process was delayed due to the implementation and migration of property owner registration information into a new web-based database. The new database went live during the 2012 lead rental property registration renewal period and included identification of prior year non-compliant owners.*

*Additionally, MDE mailed 15,882 letters in September 2012 to property owners who had been registered in one or more prior years and established procedures for review of all renewals and registrations to determine data entry accuracy and compliance with fees and registration requirements in prior years. To date, the Department has mailed 28,926 pieces of correspondence in an effort to collect prior year fees and to update data in the registration database. Of the 28,926 letters mailed, 14,942 owners' cases have been resolved, and as of November 24, 2013, MDE had collected \$876,411 from this effort. Due to staff limitations and the complexity of the 13,984 open (unresolved) owners' cases, which would have required individual site visits to verify occupancy, MDE decided not to pursue any further unresolved prior cases and shift efforts to identifying possible new cases of non-compliance based on review of the 2012 registration data.*

*MDE concurs with the recommendations.*

- a. MDE has implemented standard operating procedures (SOP) to pursue payment for failure to renew annually.*
- b. MDE completed its investigation of aforementioned property owners and invoices have been mailed if fees were due.*



*Maryland Department of the Environment's (MDE) Response to the  
Draft Audit Report dated November 2014*

- c. MDE has implemented SOPs that include a process to refer any owner of five (5) or more properties who fails to register or renew for enforcement. The enforcement process includes a full investigation of the owner and property and may result in an administrative or civil enforcement action by the Office of the Attorney General.*
- d. MDE has established a process to track cases referred to enforcement. A database has been developed to record referrals to enforcement and flag them on the registration database.*

**Finding 2**

**MDE did not have a process to ensure that owners with affected properties had a required inspection certificate.**

**Recommendation 2**

**We recommend that MDE**

- a. establish procedures to ensure that owners with affected properties have an inspection certificate when required, and**
- b. investigate the aforementioned 9,967 owners without any recorded inspection certificates and take appropriate action.**

***MDE's Response:***

*MDE partially concurs with the finding because we do not have a process in place and our databases are not designed to perform this comparison. Additionally, this finding is based on an inaccurate comparison described below.*

*We suspect OLA analysis of the 9,967 registered property owners is based on "owner number" not "property number". The "owner number" is a unique number assigned by MDE and the "property number" is assigned by State Department of Assessments and Taxation and is unique to each property.*

*The problem with this comparison is that the certificate is issued to the original owner of the property at the time certificate was issued. The certificate and the original owner number transfers with the property, therefore not reflecting the new owner number. The original owner number stays with the certificate for the life of the certificate with all property transfers.<sup>1</sup>*

---

<sup>1</sup>**Auditor's Comment:** In its response, MDE suggested our comparison of property owners in OLRR with certificates recorded in the certification database should have been based on "property number," rather than "owner number," because the certificates are associated with the property. We evaluated this assertion and concluded that performing the comparison using either "property number" or "owner number" supports the same conclusion that a large number of properties lack inspection certificates. As of December 16, 2014, a comparison using "property number" identified 7,429 owners relating to 9,229 properties that did not have certificates recorded in the certification database. We provided our results to MDE for investigation purposes.

*Maryland Department of the Environment's (MDE) Response to the  
Draft Audit Report dated November 2014*

*MDE partially concurs with the recommendations.*

- a. *MDE is currently developing requirements for a new certificate database that will link the certificate database to registration database and compare certificates to registrations. This project is contingent upon the anticipated receipt of new fees related to the new pre-1978 registration requirement and funding to support needed Information Technology resources.*

*Until the new certificate database is created, MDE will commit to reviewing 10 registrations/renewals monthly to determine if valid certificates have been issued. Properties will be referred for enforcement if there is no valid certificate on file.*

- b. *OLA did not provide the list of 9,967 owners to MDE. The Department was provided with a list of 1,250 owners for review, is reviewing the list that was provided and will take appropriate action as recommended.<sup>2</sup>*

**Finding 3**

**MDE's guidelines and agreements with local jurisdictions for the Septic System Program did not require critical documentation to be submitted and certain monitoring processes were not sufficient.**

**Recommendation 3**

**We recommend that MDE ensure the local jurisdictions are administering the Septic System Program in accordance with established requirements and guidelines. Specifically, we recommend that MDE**

- a. **establish requirements to substantiate that the local jurisdictions are obtaining inspection reports, when required; and**
- b. **obtain bid documentation that substantiates that a valid, competitive process was used.**

***MDE's Response:***

*MDE concurs with the finding.*

*MDE concurs with the recommendations.*

- a. *Starting with the FY 2013 BAT grants, MDE established procedures to review documentation of selected BRF septic grant applications, primarily from local health departments, to verify that income thresholds were met and BAT installations/inspection reports were on file. In addition, local grant recipients certify that the installed BAT has been inspected by their staff when requesting payments from MDE. Further, MDE*

---

<sup>2</sup>**Auditor's Comment:** We recently provided MDE with the complete listing.

*Maryland Department of the Environment's (MDE) Response to the  
Draft Audit Report dated November 2014*

*technical field staff also inspect 10% of the BAT installations that occur each year. MDE views the above practices as sufficient and intends to continue reviewing income tax and other income documentation on a selected basis.*

- b. There are very few cases in which bids from “outside contractors” (those not obtained through the MDE procurement process) are used for the installation of septic systems. When outside bids from outside contractors are necessary, MDE will ensure that local jurisdictions follow the MDE competitive procurement procedures and the supporting bid documentation submitted contains the appropriate signatures.*

**Finding 4**

**MDE had not performed documented verifications to ensure that all annual operation and maintenance reports were submitted by service providers.**

**Recommendation 4**

**We recommend that MDE**

- a. ensure that the database is accurately and timely maintained by recording all O&M reports in the database and retaining the supporting reports, and**  
**b. establish a documented process to follow up with service providers who do not submit required reports on a timely basis.**

***MDE's Response:***

*MDE partially concurs with the finding based on the following:*

*The audit analysis indicates that the MDE's “internal tracking database for O&M reports was incomplete and therefore could not be used to effectively track and identify non-filers. The MDE BAT database is not the only mechanism for tracking O&M inspections. Vendors have the option of providing MDE with paper or email reports, or vendors can maintain their own O&M database. A majority of O&M vendors maintain their own databases. MDE has secure access to these databases and can verify all O&M visits.”<sup>3</sup>*

*MDE does not agree that it is necessary to maintain paper copies of tens of thousands of paper records entered into vendor databases. This would be an inefficient and unnecessary use of storage space and paper. Rather, the Department intends to rely on O&M service history documentation submitted to MDE by vendors and/or the O&M activity recorded in the vendor databases by the service providers.*

*MDE concurs with the recommendations.*

---

<sup>3</sup>**Auditor's Comment:** In its response, MDE stated that, in addition to its internal tracking database, most vendors maintain their own databases of O&M reports which MDE has access to for monitoring purposes. However, there was no evidence that MDE was using these databases during the audit period.

*Maryland Department of the Environment's (MDE) Response to the  
Draft Audit Report dated November 2014*

- a. *MDE is developing a web-based database that will be the sole database used to track all BAT installations and all O&M activities. When MDE's web-based database goes live in June 2015, all service providers performing O&M will be required to enter data directly into this system. The new database will be programmed to produce regular reports on O&M activities and to automatically generate letters to property owners and vendors when required O&M is not performed.*
  
- b. *MDE is finalizing a written standard operating procedure (SOP) to formalize the process for following up with service providers who do not submit required reports on a timely basis. The SOP will be implemented by January 2015.*

**Finding 5**

**Inspections of certain construction sites were not being performed on average of once every two weeks, as required by State regulations.**

**Recommendation 5**

**We recommend that MDE take action to comply with State regulations regarding inspections of the aforementioned construction sites. If MDE determines that the inspection requirement cannot be achieved with current resources, MDE should either seek additional resources through the budget process or pursue modifying the State regulations to include a risk-based approach (repeat).**

***MDE's Response:***

*MDE concurs with the finding.*

*Between FY 2011 and FY 2013, due to budget cuts approved by the legislature, MDE was required to eliminate 41 budgeted, compliance related positions. MDE acknowledges that inadequate MDE resources exist to inspect every active construction site for compliance with erosion and sediment control plans in accordance with State regulations. For the reasons discussed below, however, MDE has decided against modifying the regulation for the following reasons.*

*The OLA analysis does not discuss the implications of new Departmental legislation that was adopted in 2013 to provide further delegation authority for projects that require MDE inspection under COMAR 26.17.01.90. Recognizing that new approaches to addressing site inspections for facilities regulated directly by the Department were needed, as an alternative to revising the regulation, the Department introduced legislation during the 2013 General Assembly Session (House Bill 97) authorizing MDE to delegate responsibility for the review, approval, and enforcement of erosion and sediment control and stormwater management for State and Federal construction projects to the responsible agency, subject to MDE oversight.*

*Maryland Department of the Environment's (MDE) Response to the  
Draft Audit Report dated November 2014*

*This legislation was signed into law in April of 2013. Sections 4-105, 4-106 and 4-205 of the Environment Article now provide the authority to delegate site inspection and plan approval activities to other agencies and entities. As a result, MDE has entered into agreements with the Maryland Department of Transportation to delegate inspections and plan approval for State Highway and Transit Authority projects, and is working with several federal agencies on potential delegation authority. MDE estimates that delegation of oversight responsibility for State Highway Administration projects would address up to 50% of the current State and federal projects in MDE's annual project portfolio.<sup>4</sup>*

*In addition, MDE has been actively working with local soil conservation districts in non-delegated counties and municipalities to assume a greater inspection, enforcement and plan review role for agriculturally-related site developments such as poultry farms, creameries, wineries, commercial farm stands and equestrian centers. This effort is expected to reduce the number of development projects in non-delegated jurisdictions that require MDE oversight. MDE continues to work with the Department of Budget and Management to increase the number of Environmental Compliance Specialists positions at MDE.*

*Finally, all construction projects that disturb more than 1 acre of land are required to obtain a federal Clean Water Act Permit from MDE that mandates weekly erosion and sediment control inspections by the projects' contractors who are required to keep a logbook describing inspections and provide the logbook for review by the MDE inspector. If the inspections and logbook documentation are not provided, the contractor is subject to formal enforcement action and significant penalties.*

**Finding 6**

**Monitoring, access, and update controls over the TEMPO and PPDW databases were not sufficient.**

**Recommendation 6**

**We recommend that MDE**

- a. properly document all reviews of database security reports and retain this documentation for audit verification purposes,**
- b. ensure that its databases are fully supported by the database vendors and kept current for all critical security related updates,**
- c. limit the aforementioned default database role's access to only those programs which are required for database operations, and**
- d. delete this insecure service on the TEMPO database.**

---

<sup>4</sup>**Auditor's Comment:** MDE mentioned recent legislation in its response that authorizes MDE to delegate construction site inspections to other agencies and entities. We were aware of the legislation; accordingly these delegated construction sites were not included in the 13,440 active plans identified in our finding as being under MDE's inspection responsibilities.

*Maryland Department of the Environment's (MDE) Response to the  
Draft Audit Report dated November 2014*

***MDE's Response:***

*MDE concurs with the finding.*

*MDE has implemented recommendations A, C, and D. Recommendation B will be executed in 2015.*

AUDIT TEAM

**Adam J. Westover, CPA**  
Audit Manager

**Richard L. Carter, CISA**  
**Stephen P. Jersey, CPA, CISA**  
Information Systems Audit Managers

**Adam M. Auerback**  
Senior Auditor

**Eric Alexander, CPA**  
**Christopher D. Jackson**  
Information Systems Senior Auditors

**Daniel J. Caldwell**  
**Jaime A. DeWitt, CPA**  
**Samuel Hur**  
**Michael A. Klausmeier**  
**Calvin Matthews, Jr.**  
Staff Auditors

**Edward O. Kendall**  
Information Systems Staff Auditor