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**Department of Environmental Protection
Tire Recycling**

July 1, 2013 to May 1, 2016

**Stephen M. Eells
State Auditor**

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New Jersey State Legislature

OFFICE OF LEGISLATIVE SERVICES

OFFICE OF THE STATE AUDITOR
125 SOUTH WARREN STREET
PO BOX 067
TRENTON NJ 08625-0067

PERI A. HOROWITZ
Executive Director
(609) 847-3901

OFFICE OF THE STATE AUDITOR
(609) 847-3470
FAX (609) 633-0834

STEPHEN M. EELLS
State Auditor

GREGORY PICA
Assistant State Auditor

JOHN J. TERMYNA
Assistant State Auditor

The Honorable Chris Christie
Governor of New Jersey

The Honorable Stephen M. Sweeney
President of the Senate

The Honorable Vincent Prieto
Speaker of the General Assembly

Ms. Peri A. Horowitz
Executive Director
Office of Legislative Services

Enclosed is our report on the audit of the Department of Environmental Protection, Tire Recycling for the period of July 1, 2013 to May 1, 2016. If you would like a personal briefing, please call me at (609) 847-3470.

A handwritten signature in black ink that reads "Stephen M. Eells".

Stephen M. Eells
State Auditor
August 22, 2016

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Scope

We have completed an audit of the Department of Environmental Protection, Tire Recycling for the period July 1, 2013 to May 1, 2016. Our audit included a review of the department's processes for scrap tire recycling and remediation. We did not audit the collection of fees imposed on the purchase of new motor vehicle tires as this is the responsibility of the Department of the Treasury, Division of Taxation.

The core mission of the Department of Environmental Protection is to protect the air, waters, land, and natural and historic resources of the state to ensure continued public benefit. This mission is advanced through effective and balanced implementation and enforcement of environmental laws to protect these resources and the health and safety of the residents.

Objectives

The objectives of our audit were to determine the current status of scrap tire piles within the state and to determine whether scrap tires ultimately arrive at an appropriate end-market.

This audit was conducted pursuant to the State Auditor's responsibilities as set forth in Article VII, Section I, Paragraph 6 of the State Constitution and Title 52 of the New Jersey Statutes.

Methodology

Our audit was conducted in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. 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.

In preparation for our testing, we studied legislation, the administrative code, and policies of the department. Provisions we considered significant were documented and compliance with those requirements was verified by interview, observation, and through our audit testing. We also read the budget messages, reviewed financial trends, and interviewed agency personnel to obtain an understanding of the programs and the internal controls.

A nonstatistical sampling approach was used. Our samples were designed to provide conclusions on our audit objectives as well as internal controls and compliance. Sample populations were sorted and items were judgmentally selected for testing.

Conclusions

We found that scrap tire piles, while reduced since the 2004 legislation established a tire management program, have reemerged on previously remediated sites as well as new sites. Greater effort should be made to proactively monitor, identify, and remediate scrap tire piles within the state. Nevertheless, the vast majority of scrap tires generated in the state do ultimately arrive at an appropriate end-market.

Background

It is estimated that approximately 300 million scrap tires are generated each year in the United States, or about one scrap tire per person per year. Scrap tires are sent to both in-state and out-of-state facilities for end-market processing. Examples of end-markets include ground rubber used for mulch, tire-derived fuel for cement kilns, and civil engineering projects such as rubber-modified asphalt. In New Jersey, there are currently 15 Class B recycling facilities that accept scrap tires. The department is responsible for the regulation of these facilities. Oversight includes a comprehensive permit process and regular site inspections to determine compliance with state regulations and permit requirements. The permit requirements include storage specifications for recyclable materials, which are designed to prevent large accumulations of specific materials. The New Jersey Administrative Code provides approval exemptions for individuals or other recycling centers which receive less than 5,000 scrap tires per month and that do not process these tires. The exemption requires tires to not be stored on-site for more than six months, be stored in totally enclosed structures or in roll-off containers or trailers, and be transferred to an appropriate end-market.

In 2004, a law was enacted that established a local tire management program and imposed a fee of \$1.50 per tire on the purchase of new motor vehicle tires. It was estimated that the fee would generate \$12.3 million in annual revenue, of which \$2.3 million would be allocated for scrap tire pile cleanup. The remaining revenue collected was to be available for appropriation to the Department of Transportation (DOT) to support snow removal operations. The Department of Environmental Protection (department) received \$2.3 million in fiscal year 2005 to address the scrap tire pile sites. However, after fiscal year 2005, budget and appropriation language was modified and the department no longer receives these funds. Annual revenue derived from the tire fee during fiscal year 2005 through fiscal year 2015 averaged approximately \$9.2 million, the majority of which was appropriated to DOT for snow removal.

Department records disclosed that 18 major scrap tire piles existed within the state in 2004. Collectively, these sites contained at least 3.2 million tires with the largest site having over one million tires. The list of these sites was updated and additional sites were added subsequent to 2004. Our review of department records and discussions with personnel indicated that the majority of tires were remediated from these sites between 2004 and 2013. Aside from the \$2.3 million received in fiscal year 2005, some sporadic grant funds were provided from other sources, such as the Recycling Enhancement Act, while other cleanup efforts were paid for by the property owners.

Scrap Tire Management

The department should increase monitoring and detection efforts for illegal scrap tire piles that have accumulated within the state.

As a result of our audit, department enforcement officials visited 26 of the known major scrap tire pile sites that were previously identified, and in most cases remediated, to determine if new accumulations of tires had developed. The department also surveyed county health and mosquito control departments to determine if they were aware of any significant tire piles within their county. Based on the department's investigation, 18 of the 26 major scrap tire pile sites did not comply with state regulations and require additional remediation efforts. These efforts may include the removal of whole tires, tire chips and shreds left from initial remediation, and contaminated soil from a tire fire. In addition, 11 new tire sites were identified and also determined to be noncompliant. In total, the department estimates that these 29 sites contain approximately 350,000 to 565,000 scrap tires. One of these sites is an approved Class B recycling facility that accepts tires. According to the permit requirements report for this facility, unprocessed tires stored on-site shall not exceed 500 cubic yards (5,000 tires) and should be stored in the five trailers designated on the approved site plan. The department estimates that approximately 40,000 tires had accumulated in a large pile and were not stored in the designated trailers.

The following images document scrap tire piles in two New Jersey counties.



Burlington County

Photo Credit: NJDEP



Monmouth County

Photo Credit: NJDEP

We also obtained a list of junk yards within the state and utilized satellite map software to scan aerial images of these sites for potential scrap tire piles. We identified 13 sites that appeared to contain scrap tires, of which five of these sites were simultaneously identified during the investigation referred to above. Department investigators estimate that 85,000 to 156,000 tires had accumulated on these sites. The remaining eight sites were referred to the department's enforcement unit to determine appropriate action. The satellite images show that many of these scrap tire piles would not be visible from the road, and some appear to be hidden behind

vehicles and other obstructions. Although there may be other undiscovered scrap tire piles, New Jersey does not seem to possess individual piles, with hundreds of thousands or millions of tires, which have plagued many other states.

Scrap tire piles are not only an eyesore, but also present an environmental and public health threat. In particular, scrap tire piles can be a significant fire safety hazard. Once ignited, scrap tire fires are notoriously difficult to extinguish. In addition to emitting dense, black, noxious smoke, tire fires can produce an oily residue that can enter and contaminate groundwater, leading to expensive remediation efforts. Mosquitoes are also a problem associated with scrap tire piles. Tire piles provide an ideal breeding ground for mosquitoes because rainwater can easily get into the tires creating the small stagnant pools necessary for mosquito breeding habitats. For many years the primary concern associated with mosquitoes was their ability to spread encephalitis and the West Nile virus. Recent attention has shifted focus on the role that mosquitoes play in transmitting the Zika virus.

Recommendation

The department should develop a process to periodically identify illegal scrap tire piles within the state. The tire piles identified during the course of the audit, and any detected in the future, should be remediated. If state funds are disbursed for tire pile clean-ups, all reasonable efforts should be made to seek reimbursement, including placing a lien against the property.

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

P.O. Box 402

MAIL CODE 401-07

Trenton, NJ 08625-0402

TEL: # (609) 292-2885

FAX # (609) 292-7695

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

August 16, 2016

John J. Termyna
Assistant State Auditor
Office of the State Auditor
125 South Warren Street
P.O. Box 067
Trenton, New Jersey 08625-0067

Dear Mr. Termyna,

Thank you for the opportunity to review and respond to the draft audit report regarding the Department of Environmental Protection, Tire Recycling, for the period of July 1, 2013 to May 1, 2016.

While scrap tire piles appear to be a reemerging issue, we are pleased that your audit found the vast majority of scrap tires generated in the state are sent to an appropriate end-use market.

The audit report did note one specific matter which merits attention. We hereby offer the following information on current program status, as well as our planned corrective actions to address this issue and corresponding recommendation.

Scrap Tire Management

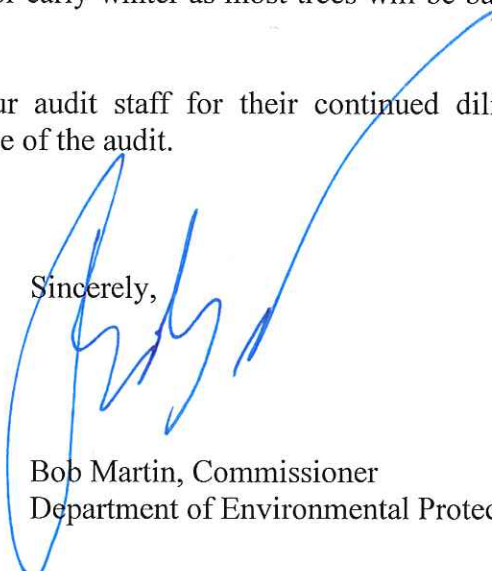
I would first like to acknowledge that through efforts coordinated by DEP, the number of tires contained in illegal scrap tire piles went from 3.2 million tires in 2004 to approximately 560,000 tires today; a decrease of over 80%. That being said, DEP does agree with the auditor's recommendation to develop a process to periodically identify illegal scrap tire piles within New Jersey. A case manager/inspector has been assigned the responsibility of reviewing and assessing the status of all scrap tire piles. The majority of inspections have already been conducted and we are now pursuing compliance at the sites.

DEP is also considering several longer-term initiatives aimed at increasing oversight and compliance at the scrap tire sites. Our water program inspects several of the indicated sites on an

annual basis, so we are discussing creating a nexus between stormwater permits and tire storage requirements. Additionally, we are reviewing the parameters of the County Environmental Health Act (CEHA) grants for the possible inclusion of a tire monitoring plan. Finally, DEP intends to arrange for state-wide overflights in order to identify other potential scrap tire sites. We anticipate these flights would occur in late fall and/or early winter as most trees will be bare and visibility will be maximized.

In closing, we would like to thank your audit staff for their continued diligent work and professionalism exhibited during the course of the audit.

Sincerely,



Bob Martin, Commissioner
Department of Environmental Protection

C: Magdalena Padilla, Esq., Chief of Staff
Mark Pedersen, Assistant Commissioner, Site Remediation and Solid Waste Programs
Ray Bukowski, Assistant Commissioner, Compliance and Enforcement
Stephen Matis, Comptroller, Division of Budget and Financial Operations