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DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WASTE TIRE PROCESSOR AND END USER PROGRAM

JUNE 2014

PERFORMANCE AUDIT

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DIANNE E. RAY, CPA

STATE AUDITOR

June 16, 2014

Members of the Legislative Audit Committee:

This report contains the results of a performance audit of the Waste Tire Processor and End User Program within the Department of Public Health and Environment. The audit was conducted pursuant to Section 2-3-103, C.R.S., which authorizes the State Auditor to conduct audits of all departments, institutions, and agencies of state government. The report presents our findings, conclusions, and recommendations, and the responses of the Department of Public Health and Environment.

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REPORT HIGHLIGHTS

WASTE TIRE PROCESSOR AND END USER PROGRAM

PERFORMANCE AUDIT, JUNE 2014

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

CONCERN

The Department needs to establish goals and strategies related to the Program's purpose, better align the reimbursement rate to the Program's goals, and strengthen controls over reimbursement payments.

KEY FACTS AND FINDINGS

- Despite an increase in waste tire recycling in recent years, Colorado does not consistently recycle all the new waste tires it generates each year. Additionally, the current recycling rate is not sufficient to eliminate the 61 million waste tires in waste tire storage facilities by 2024 when statute requires these facilities in the state to close. The Department lacks strategies, goals, and performance measures related to establishing a self-sustaining waste tire market that consumes all newly-generated and stockpiled waste tires in the state.

- In Fiscal Years 2012 and 2013 the reimbursement rates were highly variable and even though the Program paid more in reimbursements in Fiscal Year 2013, the amount of waste tires processed and end used under the Program did not increase significantly. Additionally, the reimbursement rates did not appear to align with the statutory intent to pay only a reimbursement of Program participants' costs.

- Providing reimbursements for tire bales does not appear to fall within the intent of the Program because tire bales are generally not a permanent use for waste tires and a reimbursement might not be necessary for them to be economically feasible.

- The Department lacks written documentation of its eligibility determination, application processing, and site visit practices. Additionally, its site visit practices could be strengthened through a risk-based approach.

BACKGROUND

- Colorado consumers annually generate approximately 5 million waste tires and the state has about 61 million waste tires in storage.
- The Program provides reimbursement to entities that process and/or use waste tire products to encourage recycling of waste tires and decrease waste tires in storage.
- The Program provided approximately $4.8 million in reimbursements in Fiscal Year 2013 to companies and individuals that recycled waste tires or used tire-derived products.
- House Bill 14-1352 made significant changes to the structure and administration of the Program and will repeal the Program on January 1, 2018.

KEY RECOMMENDATIONS

The Department should:

- Develop performance measures and implement strategies to achieve the Program purpose within statutory timelines.
- Align the reimbursement rate with the Program's goals, statutes, and rules.
- Eliminate the reimbursement for tire bales unless part of a permanent, engineered design.
- Strengthen eligibility controls by documenting current practices through written policies and procedures and implementing a risk-based approach to scheduling site visits.
- Conduct periodic reviews to ensure all new tire retailers are remitting the waste tire fee.

The Department agreed with these recommendations.

FINANCIAL BENEFITS

Eliminating reimbursements for tire bales could save the Program approximately $194,000 each year.

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RECOMMENDATION LOCATOR

AGENCY ADDRESSED: DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

REC. NO.	PAGE NO.	RECOMMENDATION SUMMARY	AGENCY RESPONSE	IMPLEMENTATION DATE
1	24	Improve efforts to develop sustainable waste tire markets and eliminate the state's stockpile of waste tires by (a) developing and implementing strategies, goals and performance measures to achieve the Waste Tire Processor and End User Program's (Program) purposes within statutory timelines and monitoring performance, and (b) reporting Program strategies, goals and performance measures and progress towards meeting goals to the General Assembly.	A. AGREE B. AGREE	A. JUNE 2015 B. JUNE 2015

AGENCY ADDRESSED: DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

REC. NO.	PAGE NO.	RECOMMENDATION SUMMARY	AGENCY RESPONSE	IMPLEMENTATION DATE
2	34	Improve the process for managing the Program's monthly reimbursement rate by (a) collecting and analyzing information on the costs to produce and use recycled waste tire products, and (b) working with the Solid and Hazardous Waste Commission to set reimbursement rates that promote the creation of a self-sustaining market and do not reimburse Program participants more than their costs.	A. AGREE B. AGREE	A. JUNE 2015 B. MAY 2015
3	41	Work with the Solid and Hazardous Waste Commission to modify rules to exclude tire bales from the list of products eligible for reimbursement unless applicants can demonstrate that the tire bales are part of a permanent, engineered and structured design and will not become waste tires in the future.	AGREE	MAY 2015
4	52	Strengthen eligibility controls and reviews of Program participants by (a) changing policy to align with Program rules disallowing applicants who provide false information from receiving future reimbursements or seek a change to Program rules; (b) developing a risk-based approach to scheduling site visits; (c) implementing procedures, in addition to site visits, to verify information provided by applicants; and (d) implementing written policies and procedures for application processing and documentation verification.	A. AGREE B. AGREE C. AGREE D. AGREE	A. MAY 2015 B. DECEMBER 2014 C. DECEMBER 2014 D. MAY 2015

AGENCY ADDRESSED: DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

REC. NO.	PAGE NO.	RECOMMENDATION SUMMARY	AGENCY RESPONSE	IMPLEMENTATION DATE
5	59	Ensure that new tire retailers collect and remit waste tire fees to the State by (a) modifying the registration form to identify waste tire facilities that sell new tires to consumers, and (b) conducting periodic reviews to confirm that new tire retailers are remitting the fee.	A. AGREE B. AGREE	A. SEPTEMBER 2014 B. SEPTEMBER 2014

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CHAPTER 1

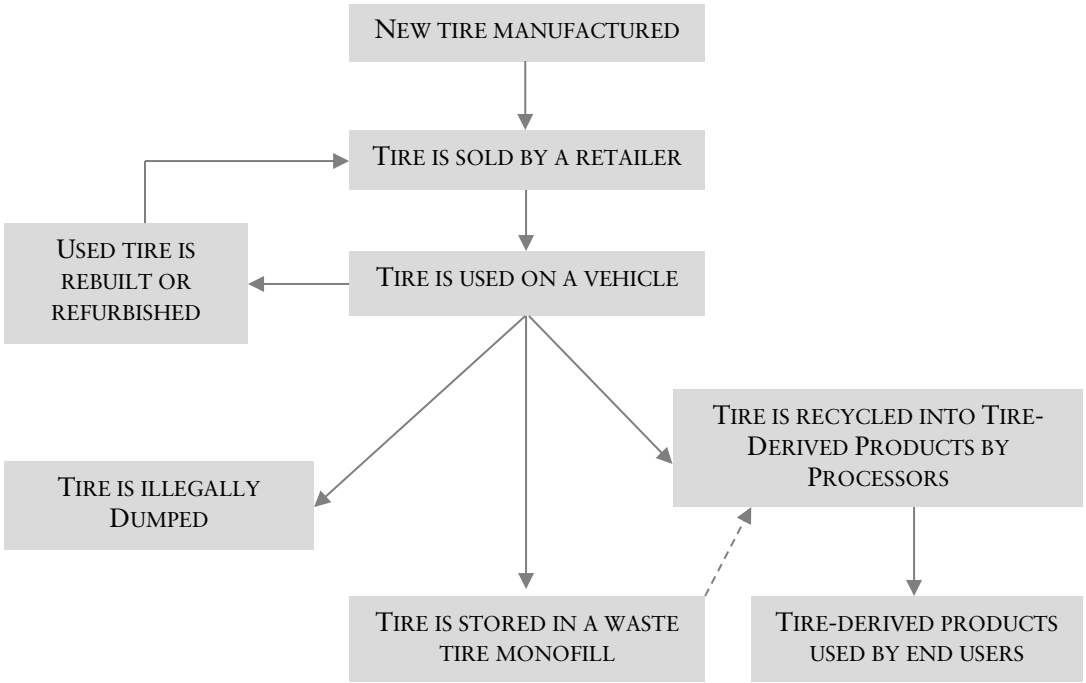
OVERVIEW OF THE WASTE TIRE PROCESSOR AND END USER PROGRAM

Colorado has the country's largest stockpile of waste tires, with an estimated 61 million tires in collection facilities, known as monofills, across the state. This large stockpile of waste tires presents a significant public health and environmental concern. Waste tires, which are generally stored in large, outdoor piles, can catch fire, emitting toxic gases that can affect the health of residents downwind. Further, because tire fires are difficult to extinguish, they can require lengthy and expensive firefighting efforts and release toxins for weeks or months at a time. In addition, waste tires can leach harmful chemicals into groundwater, and are an ideal breeding ground for mosquitoes, which can spread disease.

In order to address the state's waste tire problem, the General Assembly established the Waste Tire Processor and End User Program (Program) within the Department of Public Health and Environment (Department). Under the Program, the Department provides reimbursement payments to companies and individuals that recycle waste tires and use tire-derived products. The statutory intent of the Program is to encourage recycling and beneficial use of waste tires and reduce the state's waste tire stockpile. In Fiscal Year 2013, there were 16 processors and end users participating in the Program and they received approximately $4.8 million in reimbursements.

COLORADO'S WASTE TIRE CYCLE

Colorado's tire industry includes manufacturers, retailers, haulers, monofills, processors who recycle waste tires into new tire-derived products, and end users who use the tire-derived products. The Department is responsible for regulating this system and tracking waste tires to prevent illegal dumping and mismanagement of waste tires. The following illustration depicts the state's tire cycle from manufacturing to disposal.



As shown in the chart, after a tire is used, it may be either refurbished and sold as a used tire, be disposed of in a monofill or illegal dump, or used to create tire-derived products. Under the Program, companies that use waste tires as raw material to create tire-derived products are known as "processors" and companies and individuals that use the tire derived products and fuel are known as "end users." In practice, some companies are both processors and end users. For example, cement kiln operators are both processors and end users because they typically process waste tires on-site and then use them as fuel.

When a state does not recycle or otherwise dispose of all the waste tires it generates and takes in from out of state each year, a large stockpile of tires can result. From Calendar Year 2010 through 2013, Colorado consumers generated and haulers imported an average of about 5.7 million waste tires each year. Of these tires, about 5.3 million each year were salvaged, recycled, or exported to other states and the remaining tires were transferred to monofills, illegally dumped, or otherwise stored. Because Colorado consumers have historically generated more waste tires than are recycled by processors each year and the State previously allowed tire haulers to dispose of large numbers of waste tires from other states in Colorado monofills, the state's stockpile of waste tires grew to reach an estimated 61 million in Calendar Year 2013.

According to the Department, in Calendar Year 2013, about 6 million waste tires were recycled or salvaged. The table below provides information on the uses for waste tires in Colorado.

COLORADO WASTE TIRE MARKETS CALENDAR YEAR 2013			
TIRE-DERIVED PRODUCT	PRODUCT DESCRIPTION	NUMBER OF TIRES USED	PERCENTAGE OF TOTAL
Tire-Derived Fuel	Whole or processed tires are used as fuel in place of coal, oil or natural gas. The most common application is to fuel cement kilns.	2,803,496	47%
Alternative Daily Landfill Cover	Tires are processed into shreds that are spread on top of landfills, in place of soil cover, to compress the trash and keep it in place.	881,134	15%
Resale Salvage Tires	Used tires are retreaded, mended, or refurbished to meet safety standards and then sold for use on a vehicle.	1,088,441	18%
Tire Bales	Whole tires are compressed and bound together with steal bands to create tire bales, which can be used as fences or windbreaks.	555,693	9%
Crumb Rubber	Tires are processed into crumb-size pieces that can be added to asphalt for roadways or to create molded rubber materials.	387,219	6%
Other	Other tire-derived products include playground surfaces, landscaping mulch, aggregate material to replace soil, and safety equipment like road bumpers and safety cone ballasts.	311,326	5%
Total		6,027,309	100%

SOURCE: Colorado Department of Public Health and Environment waste tire data.

PROGRAM ADMINISTRATION

The Solid and Hazardous Waste Commission (Commission), a type 1 entity within the Department, is responsible for overseeing the Program and establishing Program rules. Staff within the Department's Hazardous Materials and Waste Management Division (Division) are responsible for day-to-day administration of the Program, including accepting applications, determining eligibility, calculating reimbursements, and conducting site visits to verify information provided on applications. In addition to its responsibilities related to the Program, the Division also regulates the transportation, storage, processing, clean-up and disposal of waste tires and other types of hazardous waste.

Based on Program rules (6 C.C.R., 1007-2, Part 4) promulgated by the Commission, to be eligible for a reimbursement, Program participants must:

- **Register with the Department.** According to Section 1.3F, 6 C.C.R., 1007-2, Part 4, all Program participants must be registered with the Department as a waste tire processor or end user.

- **Claim eligible uses of tire-derived products.** Section 1.3B, 6 C.C.R., 1007-2, Part 4 sets standards on the types of tire-derived products, processes and end uses that are allowable for reimbursement claims. Because they will eventually return to the waste tire cycle, refurbished and reused tires are not eligible for reimbursement.

- **Demonstrate the tires were generated in Colorado.** Section 1.3A, 6 C.C.R., 1007-2, Part 4 requires all reimbursements to be based on the use of Colorado-generated waste tires. Applicants must attest that all tires were Colorado-generated and maintain files showing the origin of the tires.

- **Document the weight of the tires or products used.** Section 1.4E, 6 C.C.R., 1007-2, Part 4 requires applicants to provide documentation, such as weight slips generated by a certified scale, to verify the weight of the waste tires processed or end used.

Program participants must submit applications and documentation showing eligibility to the Department on a monthly basis. Each month, Department staff review applications and documentation, and, for approved applications, calculate the reimbursement amount based on a formula provided by Program rules (Section 1.5, 6 C.C.R., 1007-2, Part 4). According to statute at the time of our audit [Section 25-17-202.5(1), C.R.S.], reimbursements were capped at $65 per ton. However, as we explain in more detail in following sections, effective July 1, 2014, House Bill 14-1352 increased the maximum reimbursement to $80 per ton.

PROGRAM FUNDING AND EXPENDITURES

The Program is entirely cash funded from a $1.50 fee on the sale of new tires in Colorado. At the time of our audit, statute [Section 25-17-202(3), C.R.S.] allocated 30.33 percent of the fee money collected to the Processors and End Users Fund (Fund) which is used to fund all Program expenditures and allocated the remainder of the fee money to other funds related to addressing the state's waste tire problem. However, beginning in Fiscal Year 2015, House Bill 14-1352 changes the funding allocation for the fee as described in the following section. The table below shows Program expenditures for each of the past three Fiscal Years.

PROGRAM EXPENDITURES,
FISCAL YEARS 2011 THROUGH 2013

	FY 2011	FY 2012	FY 2013	Percent Change, FY2011-FY2013
Reimbursements (Millions)	$2.0	$3.2	$4.8	140%
Personnel and Administrative Expenditures	$67,300	$88,700	$109,200	62%
Total Expenditures (Millions)	$2.1	$3.3	$4.9	133%
FTE	0.4	0.4	0.4	0%

SOURCE: Colorado Department of Public Health and Environment.

RECENT LEGISLATION

House Bill 14-1352, effective July 1, 2014, made significant changes to the structure and administration of the Program, as shown in the table below.

KEY PROGRAM CHANGES DUE TO HOUSE BILL 14-1352 (EFFECTIVE JULY 1, 2014)		
	PRIOR TO HOUSE BILL 14-1352	FOLLOWING HOUSE BILL 14-1352
Statutory Location	Title 25, Article 17, Part 2 C.R.S.	Title 30, Article 20, Part 14 C.R.S.
Program Purpose	To promote the recycling and beneficial use of waste tires and reduce the amount of tires in storage.	
Fee	New tire retailers charge a $1.50 fee on the sale of each new vehicle tire.	The $1.50 fee will continue and then decrease to $0.55 starting on January 1, 2018.
Fee Collection	The Department of Revenue collects and enforces the fee on new tires.	The Department of Public Health and Environment collects and enforces the fee on new tires.
Waste Tire Funds	The fee is credited to five Funds within the Department: ▪ Processor and End Users (the Fund) ▪ Cleanup ▪ Fire Prevention ▪ Market Development ▪ Law Enforcement	The fee is credited to three Funds within the Department: ▪ End Users (the Fund) ▪ Administration, Enforcement and Cleanup ▪ Market Development
Program Fund	30.33 percent of the fees collected is credited to the Program.	65 percent of the fees collected is credited to the Program.
Eligible Products	Products derived from whole waste tires using processes including shredding, crumbing and chipping.	
Program Eligibility	In-state processors and end users are eligible.	In-state end users continue to be eligible. Processors are only eligible for products sold to out-of-state end users.
Reimbursement Amount	Amount varies on a month-to-month basis and cannot exceed $65 per ton.	Amount is calculated on an annual basis and cannot exceed $80 per ton.
Program End Date	The Program is repealed July 1, 2020.	The Program is repealed January 1, 2018.

SOURCE: Office of the State Auditor analysis of Sections 25-17-201, et seq., C.R.S., and House Bill 14-1352.

Because House Bill 14-1352 was passed in May of 2014, following the completion of our fieldwork on the audit, our audit work was conducted based on Program laws and rules prior to July 1, 2014. However, throughout this report we have noted the areas where the new legislation will affect our findings and the criteria we used to evaluate the Program.

AUDIT PURPOSE, SCOPE AND METHODOLOGY

This report includes the results of our performance audit of the Waste Tire Processor and End User Program at the Department of Public Health and Environment. We conducted this audit pursuant to Section 2-3-103, C.R.S., which authorizes the State Auditor to conduct audits of all departments, institutions and agencies of state government. The audit was prompted by a legislative audit request. Audit work was performed from September 2013 to April 2014.

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.

The key objectives of the audit were to assess the Department's:

- Application review process and verification controls to prevent fraud and ensure accurate reimbursement payments.
- Methodology to determine the reimbursement rate.
- Strategies to reduce the state's stockpile of waste tires.
- Interaction with the Department of Revenue (DOR) to ensure all tire retailers are collecting and remitting the required fee on each new tire sold.

To accomplish our audit objectives, we:

- Reviewed relevant state laws; Commission-promulgated rules; and Department policies, procedures and practices for the Program.

- Interviewed Department staff to determine how they review applications to verify program eligibility and the reimbursement claim amount.

- Reviewed a sample of 20 applications from Fiscal Year 2013 and all site visit documentation to determine whether the Department has adequate procedures in place to ensure that applicants meet the eligibility requirements, submit accurate information, and are paid the proper amount based on Program rules.

- Analyzed the reimbursement payments for Fiscal Years 2011 to 2013 to determine whether the payment amounts were in accordance with the goals of the Program.

- Reviewed whether eligible uses for tire-derived products, as provided in rule, were in accordance with statutory requirements and the Program's purpose.

- Reviewed Department annual reports, internal strategic plans, and the 2013 Colorado Waste Tire Market Development Plan created by a Department contractor.

- Analyzed Department data on the amount of tires generated, recycled, and stored for Calendar Years 2008 to 2013.

- Reviewed documentation, and interviewed Department and DOR staff, on processes and controls to ensure all retailers remit the required new tire fee.

We relied on sampling techniques to support our audit work. We selected a judgmental sample of 20 applications for Fiscal Year 2013 to provide representation of the 114 applications submitted in Fiscal Year 2013, including approved and denied applications from both

processors and end users. We designed our sample based on our audit objectives to test whether the Department made proper eligibility determinations and paid the correct reimbursement amount to eligible processors and end users.

CHAPTER 2
PROGRAM PERFORMANCE

The purpose of the Waste Tire Processor and End User Program (Program) is to encourage a sustainable market for waste tires and promote the beneficial use and recycling of waste tires by providing a reimbursement to entities that process and use tire-derived products. The Department of Public Health and Environment (Department) is responsible for administering the Program to achieve the Program's purpose in accordance with statute and Program rules set by the Solid and Hazardous Waste Commission (Commission).

During the audit we evaluated the Department's progress in meeting Program goals and the efficiency and effectiveness of its processes for

reimbursing Program participants. As discussed in this chapter, we identified the following three problems in this area: (1) the Department lacks clear strategies and benchmarks for meeting Program goals; (2) Program rules established by the Commission do not provide an effective method for determining reimbursement rates; and (3) the Program's current practice of providing a reimbursement for tire bales does not align with the intent of the Program.

PROGRAM GOALS

Based on statute at the time of our audit and House Bill 14-1352, the purpose of the Department's waste tire programs is twofold: (1) reduce the state's existing waste tire stockpiles, and (2) encourage the recycling and beneficial use of waste tires that are generated by consumers each year to prevent the accumulation of tires in storage facilities and to discourage illegal dumping. To accomplish these goals, statute established the Program, which was the focus of our audit, along with other programs designed to encourage local governments to use recycled waste tire products, clean up illegal tire dumps, and assist the development of waste tire markets. The Program has contributed to achieving the statutory goals by providing reimbursements for 74 percent of tires recycled in the state during Calendar Years 2011 and 2012.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

The purpose of our work in this area was to determine whether the Program has been effective at helping waste tire recycling to become economically viable and encouraging the beneficial use of waste tires in the state. We reviewed the statutory purpose and timelines related to the Program and interviewed Department management and staff on how the Department measures the success of the Program. In addition, we reviewed the Department's most recent strategic plan, the 2013

Waste Tire Market Development Plan (Market Plan) created by a Department contractor, and the Department's annual reports on waste tires for the past five calendar years. We also reviewed Department data on the number of waste tires generated, recycled, and stockpiled in the state for the past six calendar years.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

At the time of our audit, statute [Section 25-17-202.5(1), C.R.S.] provided that the purpose of the Program was to encourage the recycling of waste tires and reduce the state's waste tire stockpile. Although this statute was repealed by House Bill 14-1352, which was effective July 1, 2014, the legislative declaration in the bill maintains a similar purpose, stating that it is the General Assembly's intent, "to encourage the development of techniques for resource recovery, recycling, and reuse of waste tires and to provide for the management of waste tires." Further, House Bill 14-1352 repeals the Program effective January 1, 2018, which, according to testimony provided by the bill's sponsors, was done to transition to a self-sustaining market that no longer requires a reimbursement from the state to be economically viable. To help reduce the number of tires in monofills, the bill also prohibits the disposal of waste tires in monofills beginning in 2018. In addition, similar to statute at the time of our audit, House Bill 14-1352 requires the Department to develop a plan to close all tire monofills by July 1, 2024. Therefore, under current law, the Department has approximately 3.5 years to develop a self-sustaining market for waste tires that can consume all the newly generated waste tires each year and 10 years to eliminate all the tires stockpiled in monofills in the state.

According to the Program's 2012 Annual Report to the Transportation Legislation Review Committee, the Department's current goal is that 100 percent of waste tires generated in the state be

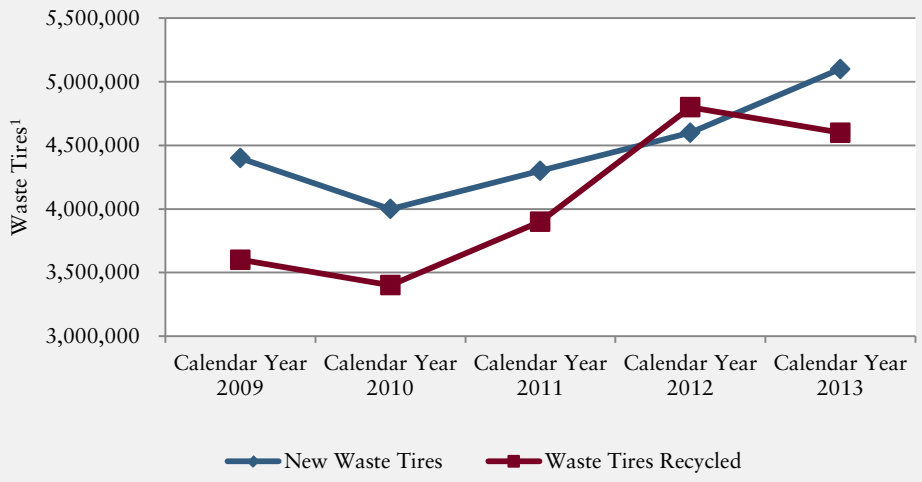
recycled each year. Program staff indicated that in the long-term, the Program's goal is to help establish a waste tire market that is diverse and consumes all existing stockpiled and newly-generated waste tires in Colorado without the need for financial support from the State, although this goal has not been formally established or included in the Program's annual reports or internal work plans.

WHAT PROBLEM DID THE AUDIT WORK FIND AND WHY DID IT OCCUR?

Despite an increase in waste tire recycling in recent years, we found that the current recycling rate is not sufficient to reduce the state's stockpile of waste tires and the Department has not developed strategies and associated goals and performance measures related to establishing a waste tire market that consumes all existing stockpiled and newly-generated waste tires in the state without the need for financial support.

The following graph provides the number of new waste tires and the number recycled in Colorado for Calendar Years 2009 through 2013.

NEW WASTE TIRES AND WASTE TIRES RECYCLED IN COLORADO, CALENDAR YEARS 2009 TO 2013



SOURCE: Office of the State Auditor's analysis of Department of Public Health and Environment data.
[1] Excludes salvaged tires.

Although waste tire recycling has generally increased since Calendar Year 2009, the information in the graph indicates that tire recyclers in the state have not consistently recycled more waste tires than are generated each year and, at the current rate, the state's stockpile of waste tires is unlikely to be recycled by 2024. As shown in the graph, in Calendar Year 2013, consumers in the state generated about 5.1 million waste tires, of which 4.6 million (90 percent) were recycled, leaving a surplus of about 500,000 waste tires. Thus, without a significant increase in recycling, it will not be possible to recycle the 61 million tires in monofills in the state within the 10 years contemplated by statute and the state's stockpile of waste tires may continue to grow. Further, the current market appears to be heavily dependent on reimbursements. We found that end users received a reimbursement for about 74 percent of tires recycled in the state during Calendar Years 2011 and 2012. Department staff indicated that although the market for waste tires has become stronger in recent years, the market

would not be able to sustain the current rate of recycling without the reimbursement.

Although the Department is aware of these issues, we found that it lacks goals and strategies to address how the market will become sustainable without support from the State and how the state's existing waste tire stockpiles will be recycled by the statutory deadlines. The Department's current performance measure, which compares the number of waste tires recycled to the number generated each year, provides important information about the use of waste tires in the state, but does not indicate how well the Program is doing at assisting waste tire markets to become economically feasible or whether the market for waste tires will be able to recycle all the tires generated in the future without support from the State.

In 2013 the Department hired a contractor to help it develop a Market Plan to address the state's waste tire issue. The Market Plan provides several potential strategies for addressing the excess number of waste tires in the state and strengthening the market for tire recycling and beneficial use, including:

- Expanding the use of tires as an industrial energy source.
- Increasing the demand for tire-derived products such as mulch and playground surfaces.
- Expanding the capacity of private industry to process waste tires.

In addition, the Market Plan recommended that the Department develop a plan to systematically monitor the use of waste tires in the state to ensure that the Department will meet statutory requirements. According to management, the Department plans to work with the contractor during Calendar Years 2014 and 2015 to implement strategies and goals to monitor its performance in addressing waste tire issues. A key goal of this process is to increase the number and diversity of markets for waste tires in the state, thereby creating a self-sustaining waste tire management system.

WHY DOES THIS PROBLEM MATTER?

Through the State Measurement for Accountable, Responsive, and Transparent (SMART) Government Act (Section 2-7-201, C.R.S.) the General Assembly expressed its intent that departments develop measurable goals related to their programs and share the performance goals and progress in achieving the goals with a wide audience, including the General Assembly and the general public to promote the accountability, transparency, and efficiency of State programs. Without clear goals and strategies regarding how the Program will help waste tire recycling expand and become economically sustainable, and without measures of progress toward the goals, it is difficult for either the Department or policy makers to determine whether the Program will accomplish its purposes of:

- Having a market that can sustain the recycling of all waste tires generated in Colorado each year before the Program reimbursement sunsets in 2018.
- Recycling, or otherwise putting to beneficial use, the approximately 61 million tires stockpiled in Colorado monofills by 2024.

As noted above, at the current recycling rate, achieving either of these purposes within the statutory timeframes will be difficult. Thus, there is a high risk that the state may continue to have a surplus of waste tires or need to extend the Program for an indeterminate period. Extending the reimbursement would continue the cost to tire consumers who pay the new tire fees. Further, although the Department reported that it can address the monofill stockpiles by requiring monofills to bury their existing waste tires by 2024, doing so would have a negative economic impact on monofill operators and would eliminate the potential for beneficially using the tires.

RECOMMENDATION 1

The Department of Public Health and Environment (Department) should improve its efforts to develop sustainable waste tire markets and eliminate the state's stockpile of waste tires by:

A Developing and implementing strategies to achieve the Waste Tire Processor and End User Program's purposes within statutory timelines and establishing quantifiable goals and performance measures to monitor its performance over time.

B Reporting the Department's strategies, goals, and performance measures developed in part "a" and an evaluation of its progress toward reaching its goals in its annual reports to the General Assembly.

RESPONSE

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

A AGREE. IMPLEMENTATION DATE: JUNE 2015.

The Department's strategy to achieve the Program purpose within statutory timelines is to increase the type and number of processors and end users, and increase the tons of tires processed and end used. The Department will measure Program performance by identifying the type and number of new processors and end users and the tons of tires processed and end used by new and old respectively. An increase in the types of activities or number of tires used will indicate market

diversity and waste tire utilization sustainability. These increases will indicate the diversity, growth and sustainability of the waste tire markets. The Department will establish quantifiable goals related to increasing the types of activities and numbers of tires used.

B AGREE. IMPLEMENTATION DATE: JUNE 2015.

The Department will provide this information and its evaluation in the annual report to the General Assembly.

REIMBURSEMENT RATE

Both at the time of our audit and under House Bill 14-1352, statute establishes a cap on the reimbursement amount the Program can provide, but authorizes the Solid and Hazardous Waste Commission (Commission) to determine how the actual reimbursement amounts are calculated. At the time of our audit, statute [Section 25-17-202.5(1), C.R.S.] capped the reimbursement rate for waste tire processors and end users at $65 per ton of waste tires. Program rules (Section 1.5 6 C.C.R., 1007-2, Part 4) promulgated by the Commission aligned with statute by limiting the rate to $65 per ton. Program rules also required the Program to (1) calculate a reimbursement rate each month based on the amount of money in the Processor and End Users Fund (Fund) and the amount of reimbursement requests it approved for the month so that all the funds would be expended each month, and (2) generally reimburse end users at twice the rate of processors. Effective July 1, 2014, House Bill 14-1352 caps payments at $80 per ton and requires the Commission to set a reimbursement rate annually based on expected funding to provide a consistent reimbursement rate throughout the year. The bill also restricts reimbursement to only end users, in most cases.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

Our objective was to determine whether the Program's reimbursement methodology is cost-effective, and appropriate to help the Department achieve the Program's goals and encourage a market for tire-derived products. We reviewed statutes and rules related to setting the rate; collected data to analyze reimbursement payments and revenue collected by the Fund for Fiscal Years 2011-2013; reviewed application files, including documentation of tire-derived product pricing; and reviewed the 2013 Waste Tire Market Development Plan (Market Plan) created by a Department contractor. We also

interviewed Program staff and stakeholders on the benefits and drawbacks of the rate structure at the time of our audit, and observed waste tire processing and end-use sites.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

We evaluated the Program's method of calculating the reimbursement rate against three key criteria, which are based on the statutory purpose of the Program and specific direction provided by statute and Program rules at the time of our audit, as follows:

- **OVERALL PURPOSE TO ENCOURAGE THE USE OF WASTE TIRES TO REDUCE THE NUMBER STORED.** At the time of our audit, statute (Section 25-17-202.5, C.R.S.) stated that the purpose of the reimbursement was to, "encourage the use of waste tires and reduce the storage of waste tires in Colorado." While this statute was repealed effective July 1, 2014, House Bill 14-1352 maintains this general purpose for the State's waste tire programs. We analyzed whether the reimbursement methodology the Program used appeared to promote an increased use of waste tires and a related reduction in the number of tires stored, and helped further the market for waste tires in the state.

- **RULE REQUIRING A HIGHER REIMBURSEMENT RATE FOR END USERS THAN FOR PROCESSORS.** Section 1.5.B, 6 C.C.R., 1007-2, Part 4 states, "The Department will pay end users twice as much per ton for each ton of waste tires used as it will pay processors for each ton of waste tires processed" but goes on to say that if this reimbursement method would result in the end-use reimbursement rate exceeding $65 per ton, then the excess funds will be distributed to processors. According to the Commission's statement of authority and purpose for this rule, its intent was to incentivize end use to increase market demand for tire-derived products. However, due to House Bill 14-1352, in most cases

processors will no longer be eligible for reimbursement under the Program.

- **STATUTE REQUIRING PARTIAL REIMBURSEMENT.** Section 25-17-202.5, C.R.S., stated that the Program should provide a "partial reimbursement" to processors and end users not to exceed $65 per ton. We interpreted this statute as requiring the reimbursement to be less than the full cost of processing and end using the tire-derived products. While House Bill 14-1352 no longer uses the term "partial reimbursement" it refers to payments to Program participants as "rebates." Thus, we interpret the General Assembly's intent under House bill 14-1352 to be that payments will not exceed Program participants' costs.

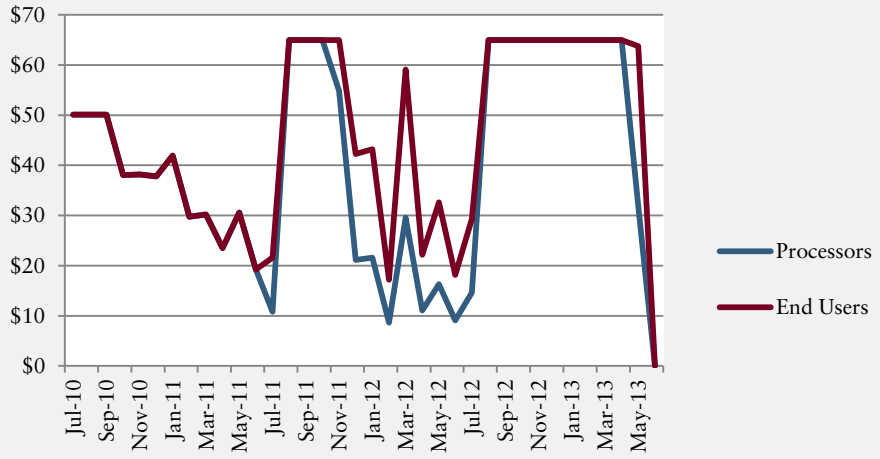
WHAT PROBLEM DID THE AUDIT WORK FIND?

Overall we found that the Program was not paying consistent reimbursement rates that promote achievement of the Program's fundamental purpose of encouraging the use of waste tires and reducing the number stored. We also found the reimbursement rates did not appear to align with the statutory and regulatory parameters to pay end users a higher rate than processors or to provide only a partial reimbursement.

First, we compared the reimbursement rates and the total number of tires recycled in Fiscal Years 2012 and 2013 and found that the rates have been highly variable and even though the Program paid more in reimbursements in Fiscal Year 2013, the amount of waste tires processed and end used under the Program did not increase significantly. In fact, we found that between Fiscal Year 2012 and Fiscal Year 2013 the average amount paid to processors increased from $38 to $58 per ton (53 percent), but the tons processed decreased by 7 percent. Also during those two years, the average

amount paid in reimbursements to end users increased from $39 to $62 per ton (59 percent), but the tons of tires that were end used increased by only 1 percent. Thus, it appears that the increased rates paid in Fiscal Year 2013 were not effective at increasing tire recycling in the state. In addition, we found that the reimbursement rate has varied considerably in recent years, peaking at $65 per ton some months and falling to as low as $0 in June 2013, as shown in the graph below. Paying a reimbursement rate that varies widely throughout the year seems contrary to the goal of making recycling economically feasible because it introduces additional uncertainty into the market.

PROCESSOR AND END USER PROGRAM, MONTHLY REIMBURSEMENT RATES ($/TON), FISCAL YEARS 2011 TO 2013



SOURCE: Office of the State Auditor analysis of Department of Public Health and Environment data.

Second, although the Commission had intended to incentivize the end use of tire-derived products by paying end users twice the rate as processors, we found that in practice this has not occurred. As shown in the table below, since the rule went into effect in Fiscal Year 2012, the rates per ton paid to processors and end users have been nearly the same. In contrast, end users received higher reimbursements relative to processors in Fiscal Year 2011 before the rule was in place.

WASTE TIRE PROCESSOR AND END USER REIMBURSEMENT RATES ($/TON) FISCAL YEARS 2011 THROUGH 2013				
		FY 2011	FY 2012	FY 2013
Average Rate	Processors	$33.05	$38.37	$58.40
	End Users	$42.76	$39.23	$62.15

SOURCE: Office of the State Auditor Analysis of Program reimbursement data.

Although the Department calculated payment amounts in accordance with Program rules, processors tended to receive higher reimbursements because they claimed more tons during months when the rate was higher and because the Program had sufficient funds to pay the maximum $65 per ton reimbursement to both processors and end users during most of Fiscal Year 2013.

Third, we found evidence that the Program's current rate structure, rather than providing a reimbursement of a processor's or end user's costs, can result in payments that exceed the cost of tire-derived products and that are higher than necessary to help establish a sustainable market for the products. The cost of tire-derived products can range from about $10 per ton to over $500 per ton, depending on overhead, transport, and installation costs. However, Program rules require the same rate to be paid for all products. This creates a potential for the reimbursements to exceed the actual costs to processors and end users, in some cases, which is not a "reimbursement" or "rebate" as intended by statute. For example, from our review of 20 application files, we identified one end user that was reimbursed $64 per ton to purchase and install tire bales at a cost of $12 per ton and another end user that was reimbursed $65 per ton to purchase and end use alternative daily cover at a cost of $11 per ton. Thus, both of these end users were not just reimbursed, but paid more than 5 times their costs, which does not appear to be in accordance with the intent of the Program.

Additionally, almost all tires in Colorado are used for the inexpensive types of products to process and end use, which include tire-derived fuel, alternative daily cover, and tire bales. Specifically, 52 percent of

the tons claimed were for tire-derived fuel, 36 percent were for alternative daily cover and 12 percent were for tire bales in Fiscal Year 2013. Based on our interviews with tire processors and end-use sites and review of the Market Plan and EPA and Rubber Manufacturers Association reports, these products are less expensive to create than other products such as mulch, running tracks, and playground surfaces, which made up less than 1 percent of end-use products. As our analysis shows, a reimbursement that does not take into account the costs to process and end use the tire-derived product may result in reimbursement rates that equal or exceed the actual costs for some types of processing and end uses. By setting rates at these levels, the Department and Commission are not promoting the creation of a self-sustaining market, at least for less expensive products.

WHAT CAUSED THE PROBLEM TO OCCUR?

At the time of our audit, Program rules set by the Commission were too restrictive to allow the Department to manage the reimbursement rates to provide consistency, reflect varying processing and end-use costs, or account for information or considerations that better align with the overall purpose of the Program and with specific statutory and regulatory requirements.

Although House Bill 14-1352 appears to address the issues we found regarding the variability of the reimbursement rate and the rate structure not incentivizing end use of products, Program rules continue to restrict the Department from considering processing and end-use costs when calculating the reimbursement rate. Department staff reported that they have considered the potential for setting different rates to better encourage diversity in the processing and use of waste-tire products. Aside from the rule limitations, however, the Department reported that it has encountered barriers in trying to collect and evaluate the costs to process and end use tires, such as

variable costs from different companies and difficulty verifying businesses' reported processing and end-use costs. The Department has collected some of this information informally through stakeholder meetings and conversations with Program applicants, but has not attempted a systematic evaluation or required processors and end users to report costs as part of their application to receive the monthly reimbursement.

If Program rules were adjusted to allow the Department flexibility to manage the rate to better reflect Program participants' costs, it could expand efforts to collect information on processor and end users' costs as a basis for setting reimbursement rates. The Department could then set the rates at potentially variable amounts, based on product type, to promote diversity in the waste tire market and help prevent some participants from receiving reimbursements for more than their costs. We found that other states provide variable reimbursement rates based on the cost to produce tire-derived products. Specifically, both Oklahoma and Utah offer different reimbursement rates based on the type of product processed (e.g., crumb rubber, scraps, tire-derived fuel). For example, Oklahoma reimburses about two-thirds as much for creating tire shreds and chips, which are less costly to make, as it does for crumb rubber, which is more costly. Similarly, Utah reimburses one-third as much for chips as it does for crumb rubber.

WHY DOES THIS PROBLEM MATTER?

Because the Department has not considered market costs when setting the reimbursement rate, it may pay some participants more than necessary to incentivize their use of tires while providing inadequate reimbursements to help make other waste tire recycling technologies viable. Further, in some cases, Program participants may receive more than a reimbursement for their costs as intended by statute. Overall, this could impede the creation of a self-sustaining market for waste tire products, which will need to be in place when the Program ends in 2018. For example, paying high reimbursements for some lower cost

products may encourage tire recyclers and end users to focus on those products, where the reimbursement itself can generate profits, instead of expanding into newer, more expensive product lines that would increase overall tire use. The Market Plan found that in other states with similar programs to Colorado's, lower-value, higher-volume types of end uses can dominate the market and, ultimately, prevent a diverse waste tire market from emerging. The Market Plan encouraged the State to re-focus its programs and re-align its goals to focus on strengthening the market for higher-value products, such as crumb rubber, and diversifying the demand for tire-derived products.

House Bill 14-1352 requires the Commission to establish new Program rules and set new reimbursement rates by May 2015. By working to collect information on the cost to use tire-derived products, the Department can better inform the Commission as it works to establish rates that will help create a self-sustaining market for waste tires.

RECOMMENDATION 2

The Department of Public Health and Environment (Department) should improve its process for managing the monthly reimbursement rate for the Waste Tire Processor and End User Program (Program) to align with the Program's goals, statutes, and rules by:

A Collecting information on the costs to produce and use recycled waste tire products and analyzing the information to determine the extent to which key market segments need reimbursements to be economically viable.

B Based on the information collected in part "a," working with the Solid and Hazardous Waste Commission to set annual reimbursement rates that promote the creation of a self-sustaining market for waste tires and prevent participants from receiving payments that provide more than a reimbursement for the cost of processing or end using waste tire products.

RESPONSE

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

A AGREE. IMPLEMENTATION DATE: JUNE 2015.

The Processor and End User Program will develop a survey for both processors and end users to identify the total cost of processing waste tires and end using tire derived products. The survey will be sent to each processor and end user, and the results collected and analyzed to determine the need for a reimbursement in key market segments. In addition, the Program will work with the Tetra Tech (the Waste Tire

Market Development Plan contractor) to collect information on a regional and national basis to corroborate the local information collected from processors and end users, and to support establishing the waste tire fee and for Program regulation development. The results will also be reported in the annual report.

B AGREE. IMPLEMENTATION DATE: MAY 2015.

The Department will comply with the statutory requirements in establishing the rebates. Using the information it collected in part "a" of this recommendation, the Department will use its best efforts to avoid paying a rebate greater than the cost of processing (includes retail sales) or end using of tire derived products and setting a reimbursement rate that promotes the creation of a self-sustaining market for waste tires. The Program will propose waste tire regulations with the new rebate procedure addressing these issues, and which are to be promulgated by May 2015.

TIRE BALES

Program rules (Section 1.3, 6 C.C.R., 1007-2, Part 4) allow reimbursement for processing and end use of tire bales, which are commonly used for wind breaks, fences and sound barriers. In order to create one tire bale, processors compress approximately 100 waste tires into a cube and wrap them with steel bands. The waste tires used in tire bales remain whole and are not processed into smaller pieces before being compressed. In Fiscal Year 2013, the Program reimbursed applicants approximately $319,000 for approximately 4,900 tons of tire bales processed or end used. According to the Department's Calendar Year 2013 data on tire recycling in the state, tire bales were the third most common type of tire processing eligible for reimbursement in Colorado.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

The purpose of our audit work was to determine whether tire bales should qualify for a reimbursement based on the Program's statutory purpose. Our audit work included a review of Program rules for the types of waste tire processes and end uses that are eligible for reimbursement and interviews with Department staff on processing tire bale reimbursement applications. We reviewed the cost to purchase tire bales based on invoices from our sample of 20 application files from Fiscal Year 2013 and interviews with a tire bale processor. We also collected data on the amount of reimbursement claims for tire bale processing and end use for Fiscal Years 2012 and 2013 and the amount of tires used to create tire bales in the 2012 Annual Report. In addition, we researched other states' standards for the beneficial use of tire bales and their requirements for reimbursement.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

At the time of our audit, statute [Section 25-17-202.5(1), C.R.S.] stated, "the purpose of the partial reimbursements is to assist new and existing waste tire recycling technologies to become economically feasible and to thereby encourage the use of waste tires and reduce the storage of waste tires in Colorado." Although House Bill 14-1352 repealed this statute, it maintained a similar purpose "to encourage the development of techniques for resource recovery, recycling, and reuse of waste tires and to provide for the management of waste tires." Accordingly the Department and the Commission have established rules (Section 1.3, 6 C.C.R., 1007-2, Part 4) defining the types of waste tire processing and products that qualify for a reimbursement. Because the overall intent of the Program is to help encourage the recycling and beneficial use of waste tires to avoid their accumulation in monofills or illegal dumps and because statute refers to payments under the Program as "reimbursements," we expected that the types of processing and end uses that are allowed to receive reimbursements under the Program would meet three key criteria as follows:

- The waste tires would be recycled or otherwise consumed and would not return to storage in Colorado.
- The cost to produce and/or purchase reimbursable waste tire products would be higher than the reimbursements offered by the program.
- The products being reimbursed would not currently be economically feasible without a reimbursement.

WHAT PROBLEM DID THE AUDIT WORK FIND?

Overall, we found that reimbursing processors and end users of tire bales does not appear to fall within the intent of the Program as provided by the three statutory criteria we identified above.
First, the common uses of tire bales, as fences or windbreaks, are temporary and do not permanently eliminate the need to manage the waste tires used. According to the 2013 Market Plan, prepared by a contractor commissioned by the Department, tire bales are a problematic end use because the steel bands used to hold the tire bales together will eventually break, leaving a pile of tires that will need to be cleaned up and disposed of once again. This is particularly true when, as is typically the case, the bales are not enclosed as part of a more permanent engineered structure, such as a building or dam. Although the Department can require the landowner to clean up the site, if the landowner is unable to pay for the cleanup, the State may then be at risk of paying to clean up the waste tires in tire bales. These tires will ultimately need to be transferred to storage or a waste tire processor facility and reenter the waste tire cycle. For these reasons, the Market Plan recommended that tire bales should not be eligible for a reimbursement.

Second, the cost to produce and/or purchase a tire bale is typically less than the payments offered to Program participants making the payments more than a "reimbursement" as intended by statute. Specifically, in Fiscal Year 2013, the Program paid an average of $62 per ton for waste tires end used, but according to invoices we reviewed and a processor we interviewed, the cost to purchase tire bales is typically between $10 and $15 per ton, as little as one sixth the reimbursement rate. This can allow Program participants to receive a significant profit for installing tire bales on their land. In our file review we found an example of an applicant being reimbursed

$27,000 after purchasing and installing tire bales at the applicant's property at a cost of $5,200, resulting in a $21,800 profit.

Third, it is questionable whether the processing and end use of tire bales requires any reimbursement from the Program to be economically feasible. As mentioned, tire bales typically sell for between $10 and $15 per bale, which each weigh about one ton and are about 50 cubic feet each. During meetings with the Department, stakeholders have reported that one reason individuals choose to use tire bales as fences or windbreaks is because they are competitively priced with other options, such as stacked straw bales, which cost about $0.51 per cubic foot compared to $0.25 for tire bales. This may indicate that processors and end users do not require financial support from the State to make processing and use of tire bales economically feasible.

In addition, our review of waste tire programs in other states indicates that some other states either do not reimburse the use of tire bales or limit the types of uses that can be reimbursed. Specifically, Utah and Virginia do not allow tire bales at all. Oklahoma has recognized that reimbursing the use of tire bales should be limited and only provides reimbursements to local and county governments for tire bales used in civil engineering projects that are confined in a structure and are unlikely to become waste tires once again, such as tire bales enclosed within a concrete wall.

WHAT CAUSED THE PROBLEM TO OCCUR?

The Department reported that it reimburses for tire bales because they were eligible for reimbursement when the Program was administered by the Department of Local Affairs and the rules regarding eligible uses for waste tires were adopted into current Program rules when the Program was transferred to the Department. The Department

recognizes potential problems with tire bales used for fences and windbreaks because these could deteriorate and become waste tires again. However, according to staff, the Department wants to consult with stakeholders before eliminating or making changes in this area. Specifically, the Department wants to discuss with stakeholders the use of tire bales in permanent structures and projects designed and approved by professional engineers, where tire bales can serve as a replacement for other materials.

WHY DOES THIS PROBLEM MATTER?

By providing reimbursement for an activity, such as the use of tire bales, that does not permanently address the need to manage waste tires and that may already be economically feasible, the Department has less funding available to encourage waste tire recycling and assist other activities that permanently eliminate tires from the waste tire cycle. According to the Department, the Program reimbursed about $388,000 for tire bales during Fiscal Years 2012 and 2013 combined. Thus, the Department could experience a cost savings of approximately $194,000 per year if it no longer reimbursed for tire bales and used the funds to reimburse for other waste tire products and encourage the expansion and diversification of end use markets as we discussed in the Recommendation Nos. 1 and 2. In addition, because the current reimbursement rates paid for tire bales may exceed their costs, there is a risk of Program participants using tire bales that are not needed to generate a profit based solely on the reimbursement payment.

RECOMMENDATION 3

The Department of Public Health and Environment should work with the Solid and Hazardous Waste Commission to modify rules to exclude tire bales from the list of products eligible for reimbursement under the Waste Tire Processor and End User Program unless applicants can demonstrate that the tire bales are part of a permanent, engineered and structured design and will not become waste tires in the future.

RESPONSE

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

AGREE. IMPLEMENTATION DATE: MAY 2015.

The Department appreciates the audit findings that tires bales, without engineering approval, are a temporary storage of waste tires. Conversely the Department understands that tire bales used in a permanent engineering structure can constitute a viable use of tire bales and should qualify for a rebate. The Department will work with the Solid and Hazardous Waste Commission, stakeholders, and Tetra Tech (the Waste Tire Market Development Plan contractor) during the regulation development process to establish an appropriate rebate for tire bales used only in permanent engineered structures.

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CHAPTER 3

PROGRAM ADMINISTRATION

The Department of Public Health and Environment (Department) is responsible for reviewing Waste Tire Processor and End User Program (Program) applications to determine eligibility, calculating the amount of reimbursement participants can receive, and conducting reviews to ensure that participants are following Program rules and have provided accurate information on their application forms. To fund the Program, statute at the time of our audit [Section 25-17-202(2), C.R.S.] required the Department of Revenue (DOR) to collect a $1.50 fee that tire retailers collect from consumers for each new tire sold in the State. However, during the 2014 legislative

session the General Assembly passed House Bill 14-1352, which shifts responsibility for collecting the fee from DOR to the Department beginning in Fiscal Year 2015.

We reviewed the Department's administration of the Program, including its controls to ensure that all Program participants are eligible and receive the proper reimbursement amount under Program rules. We also reviewed procedures used by both the Department and DOR to ensure that new tire retailers collect and remit the $1.50 fee for each new tire. As we report in the following two sections, we found that the Department needs to: (1) strengthen its controls for processing applications and determining eligibility, and (2) improve its process for tracking new tire retailers and ensuring that they pay the fee.

ELIGIBILITY CONTROLS

To receive reimbursements, Program participants are required to submit a monthly application to the Department. On the application, participants must provide information on how they processed or end used tire-derived products, the weight of the tires processed or end used, and the date of processing or end use. In addition, applicants are required to submit hard copy documentation, such as weight slips and invoices, to verify the weight of tires processed or end used. Once the Department receives applications, staff review the applications for completeness and follow-up with applicants that did not provide all the required information and documentation. The Department provides applicants who submit incomplete applications an additional five days to submit the needed information. Department staff then review applications to ensure that applicants processed or end used tires in accordance with Program rules, are properly registered as waste tire processors and end users, and are in compliance with any other applicable environmental laws and regulations administered by the Department. Department staff then approve or deny applications for payment. In addition to reviewing applications and documentation

submitted by applicants, Department staff perform occasional site visits to verify applicants' reported types of processing or end-use activities, ensure that they have adequate recordkeeping practices, and confirm the accuracy of information submitted to the Department, such as the weight of the tire-derived products and dates of processing or end use. Because most of the requirements related to processing applications are established in Program rules, the recent enactment of House Bill 14-1352 did not substantially change the processes we reviewed in this area.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

The purpose of our review was to determine whether the Department has adequate and consistent controls to determine eligibility, calculate reimbursements, and prevent fraud. As part of our audit work we reviewed a sample of 20 of the 114 applications submitted by processors and end users during Fiscal Year 2013. For each application in our sample, we examined the application information and hard copy documentation, including documents used to verify tire weights, to determine whether the Department collected adequate information, made eligibility determinations in accordance with Program rules, and paid approved applicants the correct amount. In addition, we reviewed documentation for all seven site visits conducted by the Department in Fiscal Year 2013, observed processor and end user facilities, and interviewed Department staff regarding application and site review practices. We also reviewed the Department's policies and procedures related to determining eligibility and addressing situations where applicants provide false documentation.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

Statute and Program rules require applicants to meet the following key requirements to receive reimbursements for processing or end using waste tires:

- **ELIGIBILITY.** According to Program rule (Section 1.3F, 6 C.C.R., 1007-2, Part 4), processors and end users applying for reimbursement must be registered with the Department and maintain compliance with applicable rules in other environmental areas, such as solid waste, water, and air quality. In addition, Program rule (Section 1.8C, 6 C.C.R., 1007-2, Part 4) provides that any applicant who submits false information is no longer eligible to receive any future reimbursement.

- **ALLOWABLE USE.** Program rule (Section 1.3B, 6 C.C.R., 1007-2, Part 4) lists tire-derived products and uses that can be reimbursed under the Program, such as shredding tires for use as fuel or land fill cover and baling tires to use as wind breaks. Rule also provides that certain uses such as reuse as a vehicle tire, non-fuel burning, and disposal in landfills are not eligible for a reimbursement.

- **COLORADO TIRES, PROCESSING AND END USE.** Program rule (Section 1.3A, 6 C.C.R., 1007-2, Part 4) requires that reimbursements be made only for Colorado-generated tires and for processing or end use that occur in-state. Processors who process in-state, but sell products to out-of-state end users, can receive a reimbursement for processing, but not end use.

- **DOCUMENTED TIRE WEIGHT.** Program rule (Section 1.4E, 6 C.C.R., 1007-2, Part 4) requires applicants to provide weight slips from scales certified by the Department of Agriculture to document the weight of the processed or end-used waste tires. Rule allows the Department to

accept other forms of documentation to establish tire weight, such as invoices, on a case by case basis.

- **DOCUMENTED USE.** Program rule (Section 1.3A, 6 C.C.R., 1007-2, Part 4) requires that the tire-derived products be used before they can be reimbursed. Processors cannot stockpile products and must have sold and moved the product off-site or end used the products on-site before they can receive reimbursement.

  The Department is responsible for ensuring that applicants meet these requirements prior to receiving reimbursements. Program rule (Section 1.8A, 6 C.C.R., 1007-2, Part 4) provides that applicants are subject to Department reviews at any time to determine the applicants' compliance with Program rules and requires that applicants maintain all documentation related to the reimbursement for five years following the application.

WHAT PROBLEM DID THE AUDIT WORK FIND AND WHY DID IT OCCUR?

Overall, we found that the Department made proper eligibility determinations and paid approved applicants in accordance with Program rules for the 20 applications in our sample. However, we found that the Department needs to strengthen and document its practices used to determine eligibility, process applications, and conduct site visits. Specifically, we identified the following issues:

- **IMPROPER ELIGIBILITY DETERMINATIONS FOR APPLICANTS WHO SUBMITTED FALSE INFORMATION.** Program rule (Section 1.8C, 6 C.C.R., 1007-2, Part 4) states, "any applicant who provides false information to the Department when applying for a partial reimbursement shall be ineligible to receive ANY FUTURE [emphasis added] partial reimbursement under these rules." However, during our audit, Department staff notified us of two applicants who had submitted false information but were later allowed to participate in

the Program following a six month eligibility suspension. Specifically, in September of 2012, one applicant submitted an application for reimbursement for the use of about eight tons of tire mulch, but was denied reimbursement when Department staff visited the facility where the mulch was installed and found only about one ton of tire mulch had been installed by the applicant. The Department suspended this applicant from participating in the Program until March of 2013, at which time the applicant again applied for a reimbursement for activities that were unrelated to the previously denied claim and the Department reimbursed the applicant about $3,200. Another applicant, who was both a processor and end user, created invoices to make it appear that the tire bales it created and used on its own property had been purchased by an outside entity. After discovering the false documentation, the Department sent the applicant a letter indicating that it would be ineligible for reimbursement from September 2012 to February 2013. As of May 2014, the applicant had not submitted another application for reimbursement.

We reviewed the Department's written policy for applicants who provide false information under the Program and found that it allows staff to determine the amount of time applicants will be ineligible based on the severity of the offense. According to Department staff, the policy was created to provide the Department with discretion to allow future participation based on the circumstances of each case. Although there could be circumstances where greater flexibility would be beneficial, for example if an applicant submitted false documentation due to an accounting error or misunderstanding of documentation requirements, we question paying any future reimbursements to applicants who intentionally submitted false information. Further, based on current Program rules, the Department does not have the authority to pay future reimbursements once an applicant is determined to have submitted false information.

- **LACK OF A REGULAR, RISK-BASED SITE VISIT SCHEDULE.** We found that the Department has not developed a systematic process for scheduling

site visits. Because some processors and end users only participate once or on a sporadic basis, the Department's approach to scheduling visits has been to focus on the more frequent participants and to visit these participants at least one time. Once a participant has had a site visit, the Department rarely visits again. Overall, we found that the Department has only visited one Program participant more than once and this was to follow up on problems identified on the first visit. According to the Department, conducting regular site visits is difficult because the Program has limited staffing and processors and end users are spread around the state. However, the Department could ensure its staff time is used efficiently by developing a risk-based approach, such as focusing on larger processors or those where the Department has identified a potential concern, to select a limited number for site visits each year. Further, the Department could explore other options that require less staff time, such as selecting a sample of applicants and requesting that they send documentation or photos to verify information they reported in their applications. In addition, because the Department requires participants to annually report the number of tires they have on site, the number brought on site, the number moved off site, and the number recycled, it could compare this information to the tons applicants submitted for reimbursement as a reasonability check to ensure that applicants do not submit applications for more tires than they could have processed.

- **LACK OF WRITTEN PROCEDURES FOR APPLICATION PROCESSING.** Although Program rule (Section 1.6, 6 C.C.R., 1007-2, Part 4) outlines the Department's responsibilities for processing applications, the Program has not created any written policies and procedures to guide the application process. We found that the review and verification of application documentation is a complex process because applicants turn in a variety of documentation to demonstrate compliance. The same staff member who developed most of the current practices continues to conduct the application reviews and is the only staff person who conducts the reviews each month. Therefore, the Department has been able to rely on that individual's

own experience to ensure the process is carried out consistently from month-to-month and has not documented its practices through written policies that others would be able to follow.

- **INADEQUATE DOCUMENTATION OF TIRE WEIGHT VERIFICATION PROCESS.** We found that 4 of the 14 applicants in our file review (29 percent) did not provide weight slips to document the weight of the waste tires on their applications. Instead, the Department allowed these applicants to submit other forms of documentation, such as invoices and fuel metering reports, to verify the weights claimed on their applications. Program rules give the Department discretion to allow documentation other than weight slips and Department staff reported that they had worked with each of the four applicants to determine the acceptable documentation. Through interviews with staff and written responses from the Department we found that the Department took extra steps to ensure this other documentation was verifiable and accurately documented the weight of the tire-derived products. However, the Department lacked any documentation in the applicants' files showing how it determined that alternative documentation was necessary and sufficient. Department staff reported that they have developed practices to determine whether alternative documentation is allowable, but have not developed any written guidelines on how to determine which types of documentation to accept and how to document the Department's decisions regarding weight verification in the applicants' files.

WHY DOES THIS PROBLEM MATTER?

Because most of the information provided by applicants is self-reported and difficult to verify, it is important that the Department have procedures in place to ensure that applicants are providing accurate information and to mitigate the risk of fraud. Allowing continued participation in the Program after an applicant has been found to have submitted false information increases the risk of fraud and is not allowable under Program rules. In addition, although we

didn't identify any concerns in our review of 20 application files, Department staff reported that in Calendar Year 2013 it found evidence that the same participant who had submitted false information regarding the use of tire mulch (discussed in the previous section), had also submitted fraudulent application information for tire-derived products the company had not actually sold. Program staff did not discover the problem during the application process and approved the applicant for about $17,000 in reimbursement payments. However, a more detailed review of the applicant's documentation conducted by the Department revealed that the applicant could not verify the tires that they reported selling to an end user and led to the applicant's conviction for fraud, a $10,000 fine, and the return of the $17,000. Implementing more rigorous restrictions on paying reimbursements to applicants who were previously found to have submitted false information to the Department and a regular, risk-based approach to conducting site visits and performing reviews of applicants' documentation would increase the Department's ability to identify and deter fraud.

Without written policies the Department lacks assurance that the current practices for processing applications will continue in the same manner going forward and lacks clear standards to help ensure the same procedures will be applied consistently for each applicant. Further, without written policies and clear documentation of the Department's process for verifying tire weights using alternatives to weight slips, some applicants may think that the Department's standards are inconsistent. During a recent public meeting, a stakeholder brought up concerns that applicants that submit documentation other than weight slips may not receive the same level of review and verification as applicants that provide weight slips. The perception of varying and unequal documentation standards negatively impacts the Department's ability to work with stakeholders to help ensure the success of the Program.

RECOMMENDATION 4

The Department of Public Health and Environment (Department) should strengthen the Waste Tire Processor and End User Program's (Program) eligibility controls and reviews of Program participants by:

A Changing its policy to align with Program rules that disallow applicants who submit false information when applying for reimbursements from receiving any future reimbursement under the Program. If the Department continues to believe that it needs greater flexibility to evaluate the circumstances of each case when false information is submitted, it should work with the Solid and Hazardous Waste Commission to change Program rules, but in any case, should not allow applicants who intentionally submit false information to receive future reimbursements.

B Developing and implementing a risk-based approach to scheduling site visits that uses staff time effectively and ensures consistent and adequate monitoring in the future.

C Implementing other procedures, in addition to site visits, such as periodic documentation reviews, to verify information provided by applicants.

D Implementing written policies and procedures for application processing and documentation verification, including procedures to document the process to determine whether to accept documentation other than weight slips to verify tire weight.

RESPONSE

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

A AGREE. IMPLEMENTATION DATE: MAY 2015.

The Department will propose to the Solid and Hazardous Waste Commission that it modify the existing regulations to permanently exclude applicants who intentionally submit false information from ever being eligible for rebates. In addition, the Department will propose to clarify that applicants who unintentionally submit inaccurate information on the rebate form may be able to correct the error and qualify for a rebate.

B AGREE. IMPLEMENTATION DATE: DECEMBER 2014.

The Processor and End User Program will develop a risk based inspection program that includes prioritization factors such as the large volume processors, retailers and end users; engineered end use compliance with approved plans, scale calibration, anomalous changes in end use volumes, rebates forms with repeatedly inconsistent information, and rebates forms with exactly the same volumes. These criteria will be field verified more frequently by either departmental staff or local governmental enforcement personnel under provisions of House Bill 14-1352 that allow the Department greater flexibility to contract with local enforcement agencies.

C AGREE. IMPLEMENTATION DATE: DECEMBER 2014.

House Bill 14-1352 includes greater flexibility for the Processor and End User Program to contract with local enforcement agencies. These contracts will include the requirements for the local enforcement agencies to collect copies of facility/operator documentation including records such as receipts, invoices, other business records and

photographs of final placed/used tire derived products. This evidence will be used to corroborate the rebate requests. In addition, departmental staff will inspect facilities/operators and collect the same evidence to corroborate the rebate requests.

D AGREE. IMPLEMENTATION DATE: MAY 2015.

The Department will develop written policies for the Processor and End User Program as the new regulations are finalized. The policies will document the rebates request, verification and disbursement processes; inspection planning; field work; documentation and follow-up processes; processes to evaluate exceptions to the regulations; and others as needed to fully implement the Program.

FEE COLLECTION

At the time of our audit, statute [Section 25-17-202(2)(a), C.R.S.] required tire retailers to collect a $1.50 fee on each new passenger vehicle tire sold in Colorado and remit the fees to the Department of Revenue (DOR). Once collected by DOR, up to 1.66 percent of the fees collected could be allocated to DOR for its administrative expenses and the remaining fees were transferred to the five waste tire program funds administered by the Department: Processor and End User, Cleanup, Market Development, Fire Prevention, and Law Enforcement Grants. Statute allocated 30.33 percent of the waste tire fees collected to the Program. House Bill 14-1352, effective July 1, 2014, changes the administration of the fee, transferring responsibility for its collection and enforcement from DOR to the Department. In addition, the bill increases the Program's share of the fees from 30.33 to 65 percent of the fees collected from July 1, 2014 through Calendar Year 2017. However, effective January 1, 2018, the bill ends the Program and lowers the fee from a maximum of $1.50 to $0.55, to be used for other waste tire programs that will continue beyond Calendar Year 2017.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

The purpose of our audit work in this area was to determine whether the Department and DOR have adequate procedures to ensure that new tire retailers collect and remit the waste tire fee. During the audit, we consulted applicable statute and rules, interviewed staff at the Department and DOR on their processes used to track retailers of new tires and collect the waste tire fee, and reviewed an analysis conducted by the Department and DOR in Fiscal Year 2014 to identify new tire retailers who were not remitting the fee as required.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

The state's tire retailers are subject to several requirements related to waste tire fees, including the following:

- Statute (Section 25-17-202(2)(a), C.R.S.), at the time of our audit, required all new tire retailers to collect a $1.50 waste tire fee on each new passenger vehicle tire sold in Colorado and remit the fee to DOR. As of July 1, 2014 House Bill 14-1352, transfers responsibility for collecting the fee from DOR to the Department.

- Program rule (Section 10.4.3A, 6 C.C.R., 1007-2, Part 1) requires businesses that generate waste tires, including new tire retailers, to register with the Department. The Department is responsible for maintaining records on the state's waste tire industry.

- Statute (Section 39-26-103, C.R.S.) requires all retail businesses to obtain a sales tax license from DOR. As part of the license application, DOR asks whether the applicant intends to sell new tires.

WHAT PROBLEM DID THE AUDIT WORK FIND AND WHY DID IT OCCUR?

We found that the Department could improve its ability to ensure that all new tire retailers are paying the fee by conducting regular reviews of tire retailers' compliance and collecting more detailed information when retailers register with the Department. Prior to July 2013, the Department and DOR had not compared the Department's registration data to DOR's data on taxpayers who had a sales tax license with DOR and who self-reported as new tire retailers. In July 2013, the Department provided DOR with a list of all 1,684 waste tire generation facilities in Colorado that had registered with the

Department, including new and used tire retailers, wholesalers, and fleet service facilities. DOR compared this list to its data on new tire retailers and identified 222 additional retailers that had not previously reported to DOR that they sold new tires and therefore had not been paying the waste tire fee. DOR reports that the one-time review required approximately 200 hours and cost $5,800. One reason for this is that the Department's current registration form does not differentiate new tire retailers from other types of waste tire generating facilities, such as vehicle fleet operations, wholesalers and used tire retailers. As a result, DOR reports that much of the time and cost was due to manually eliminating the used tire retailers, wholesalers, and fleet service facilities from the list to identify new tire retailers.

Although House Bill 14-1352 shifts responsibility for collecting the fee to the Department beginning in July 2014, the Department will need to conduct similar reviews, comparing data on registered new tire retailers to data on retailers who remit the fee, to ensure retailers are collecting and remitting the fee as required. If the Department began recording the type of tire facility (i.e., new tire retailer, used tire retailer, wholesaler, fleet) on its registration form, it would be able to create a list of just the new tire retailers, which should significantly reduce the time and cost of a periodic review process.

WHY DOES THIS PROBLEM MATTER?

Waste tire fees are the sole source of funding for the Program, which expended a total of approximately $4.9 million in Fiscal Year 2013. Without an ongoing or periodic process to identify new tire retailers that do not remit the fee as required, there is a risk that the Department will not collect all the waste tire fees due and will have less funding for its programs intended to address the state's waste tire problem. As a result of the analysis conducted by the Department and DOR in Fiscal Year 2014, DOR reports that it has collected approximately $31,000 in fee revenue from newly registered retailers of new tires that should have been remitted from prior Fiscal Years

(June 2010 through June 2013) and about $39,000 in fee revenue for tires sold between July 1 and December 31, 2013, for a total of $70,000. By establishing a process to track new tire retailers and ensure that they are paying the fee, the Department can mitigate the risk of retailers not paying the fee in future years.

RECOMMENDATION 5

The Department of Public Health and Environment should ensure that new tire retailers collect and remit waste tire fees to the State by:

A Modifying its registration form to identify waste tire facilities that sell new tires to consumers.

B Conducting periodic reviews to confirm that new tire retailers are remitting the fee required by statute.

RESPONSE

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

A AGREE. IMPLEMENTATION DATE: SEPTEMBER 2014.

The Processor and End User Program will modify the existing waste tire application form to clearly identify whether the registrants, new or renewal, are subject to collecting and remitting waste tire fee. The modified form will be printed for distribution and posted to the web page.

B AGREE. IMPLEMENTATION DATE: SEPTEMBER 2014.

House Bill 14-1352 includes greater flexibility for the Processor and End User Program to contract with local enforcement agencies. These contracts will include requirements for the local enforcement agencies to collect facility/operator documentation including records such as receipts, invoices, other business records to corroborate collection and

remittance of the waste tire fees. In addition departmental staff will be inspecting facilities/operators to collect evidence to document the collection and remittance of the waste tire fee.

APPENDIX

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OFFICE OF THE STATE AUDITOR
SUMMARY OF FINDINGS RELATED TO THE SMART GOVERNMENT ACT
WASTE TIRE PROCESSOR AND END USER PROGRAM AUDIT
DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
JUNE 2014

The SMART Government Act [Section 2-7-204(5), C.R.S.] requires the State Auditor to annually conduct performance audits of one or more specific programs or services in at least two departments. These audits may include, but are not limited to, the review of:

- The integrity of the department's performance measures audited.
- The accuracy and validity of the department's reported results.
- The overall cost and effectiveness of the audited programs or services in achieving legislative intent and the department's goals.

The performance audit relating to the Waste Tire Processor and End User Program (Program) was selected for focused audit work related to the SMART Government Act. This document outlines our findings related to the integrity and reliability of the Department of Public Health and Environment's (Department's) performance measurement for the Program. We have presented our findings as responses to six key questions that can assist legislators and the general public in assessing the value received for the public funds spent by the Program.

What is the purpose of this program/service?

At the time of our audit, Statute [Section 25-17-202.5(1), C.R.S.] provided that the purpose of the Program was to encourage the recycling of waste tires and reduce the state's waste tire stockpile. Although this statute was repealed by House Bill 14-1352, effective July 1, 2014, the legislative declaration in the bill maintains a similar purpose, stating that it is the General Assembly's intent "to encourage the development of techniques for resource recovery, recycling, and reuse of waste tires and to provide for the management of waste tires." In addition, under House Bill 14-1352, the Program will end on January 1, 2018. According to testimony provided by

the bill's sponsors, the intent of this change is to move waste tire recycling in the state to self-sustaining system that can beneficially use the state's waste tires without a reimbursement from the State. Further, House Bill 14-1352 also requires the Department to close the state's waste tire monofills by 2024. Therefore, the Department has about 3.5 years to help create a self-sustaining market for waste tire recycling that can consume all the newly generated waste tires each year and about 10 years to eliminate all the existing waste tires stockpiled in the state's monofills.

What are the costs to the taxpayer for this program/service?

The Department expended about $4.9 million on the Program in Fiscal Year 2013, which includes about $4.8 million in reimbursement payments and $100,000 in administrative costs.

How does the Department measure the performance of this program/service?

The Department's Fiscal Year 2014 Strategic Plan does not contain any goals or performance measures related to the Program. However, the Department's 2012 Waste Tire Annual Report, which was the most recent report available at the time we completed our audit work, provided to the Transportation Legislation Review Committee in July 2013, indicates that an outcome goal for the Program is that 100 percent of newly-generated waste tires in Colorado will be recycled each year. Further, Department staff indicated that a long-term goal for the Program is to create a sustainable market for waste tire recycling in the state to consume all newly generated waste tires each year and eliminate the state's stockpile of 61 million waste tires; however, as discussed in Recommendation No. 1 this goal has not been formally established in writing and the Department has not developed strategies to meet this goal or performance measures to track its performance.

Is the Department's approach to performance measurement for this program/service meaningful?

The SMART Government Act [Section 2-7-202(18), C.R.S.] includes several requirements to ensure that departments' performance measures are meaningful. Specifically, performance measures included in departments' performance plans are required to:

- Be quantitative indicators used to assess the operational performance of a department.
- Apply to activities directly under the influence of a department.
- Demonstrate the department's efficiency and effectiveness in delivering goods or services to customers and taxpayers.
- Be reasonably understandable to the general public.

Although the Department's performance measures for the Program are not included in the Department's Strategic Plan prepared in accordance with the SMART Government Act, the criteria provided above can be used as guidance for establishing meaningful performance measures.

As discussed in Recommendation No. 1, we found that the Department could better plan, monitor, and report on the performance of the Program by establishing goals, strategies and performance measures related to achieving a sustainable waste tire market and removing tires from monofills. Although the Department's goal that 100 percent of newly generated waste tires will be recycled each year is a meaningful measure of the Program's performance, it does not provide information on the Department's goals and strategies for encouraging a self-sustaining market for waste tires and eliminating all waste tires from monofills, which are ultimately the purposes of the Program. By establishing additional performance goals, strategies and measures, the Department can improve its ability to demonstrate the effectiveness of the Program and better inform policy-makers and the public.

Are the data used to measure performance for this program/service reliable?

We reviewed the Department's data related to the Program and found that they are reliable for the purpose of measuring Program performance. However, as we discuss in Recommendation No. 4, the data is self-reported by tire processors and end users and the Department needs to implement a

risk-based approach to conducting site visits and monitoring Program participants to ensure it receives accurate information.

Is this program/service effective in achieving legislative intent and the Department's goals?

As discussed in Chapter 2, we found that the Department can improve its efforts to achieve the legislative intent of the Program. In Calendar Year 2013, about 4.6 million of the 5.1 million waste tires (90 percent) generated by consumers in the state were recycled. Thus, the number of tires recycled each year will need to increase substantially to eliminate the tires currently stockpiled in monofills by 2024. Further, most tire recycling is still subsidized by Program reimbursements and it is unclear whether a self-sustaining market for waste tires will exist by January 1, 2018, when the Program ends. Accordingly, in Recommendation No. 1 we recommend that the Department establish goals, strategies and performance measures related to developing a sustainable market for waste tires and eliminating the tires stored in monofills.

GLOSSARY

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TERMS

Commission

Solid and Hazardous Waste Commission.

Department

Department of Public Health and Environment.

End User

An entity that uses a tire-derived product for commercial or industrial purposes.

Monofills

Disposal facilities that only accept waste tires.

Processor

An entity that processes waste tires in Colorado for recycling or beneficial use.

Program

Waste Tire Processor and End User Program.

Tire Bales

Whole tires, compressed and bound together with steal bands, commonly used as fences or windbreaks.

Salvaged Tires

Used tires that are retreaded, mended, or refurbished to meet safety standards and then sold for use on a vehicle.

Waste Tire

A tire that is no longer mounted on a motor vehicle and is no longer suitable for use as a tire due to wear, damage, or deviation from the manufacturer's original specifications.

Waste Tire Hauler

An entity that transports waste tires.

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