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WHERE THE RUBBER MEETS THE ROAD: WASTE TIRE DISPOSAL LAWS IN THE SOUTHERN STATES

by SLC Policy Analyst Anne Roberts Brody

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Introduction

Despite more than 20 years of efforts to address the issue of waste tires nationwide, large illegal stockpiles persist. In a number of reported incidents where stockpiles have caught on fire, mitigation of the site has taken up to nine years and \$22 million to complete. Remediation of large illegal stockpiles has been reported to take more than five years to complete. While the tracking and disposal of waste tires continue to present challenges, legislatures in the states comprising the Southern Legislative Conference of The Council of State Governments have been focusing on this problem, creating legislation and devising mechanisms to address this problem, since 1989.

Tire dumps can attract rodents and mosquitoes, act as vectors for disease, and are a serious fire hazard. When tires catch fire, contaminants in the burning material can run off into creeks and pollute groundwater. These fires also can cause significant air pollution.

This *SLC Regional Resource* outlines some of the key criteria contained in the SLC states' waste tire disposal laws and rules, provides an overview of state waste tire laws and concludes with an assessment of best practices undertaken by states in the region.

Waste Tires

A variety of definitions of waste tire(s), sometimes referred to as scrap tires, can be found in the legislation and

policies implemented by states. For the purposes of this *Regional Resource*, a waste tire is defined as a tire that no longer is mounted on a vehicle and no longer suitable for use as a vehicle tire due to wear, damage, or deviation from the manufacturer's original specifications. Nationwide, most states' waste tire disposal policies are established through legislation, with the legislative branch directing the state agency responsible for environmental quality and protection to adopt administrative rules. Most policies in SLC states involve the collection of a fee to cover the cost of waste tire disposal, remediation^A of illegal waste tire dumps' tracking and certification requirements, waste tire collection site specifications and suggested uses for waste tires.

Fee Assessment

Waste tire stockpiles do not have a positive net value, as reducing and eliminating stockpiles may cost more than can be derived from product revenue, particularly in sectors where waste tire markets are not yet fully developed. If stockpile owners are unable or unwilling to finance the ultimate closure of waste tire storage or processing sites, the stockpiles become public liabilities, and funding to mitigate the associated public health and environmental hazards must be provided. States often establish funding mechanisms within the enabling legislation that authorize their waste tire programs. These programs often are im-

^A In the case of illegal waste tire dumps, remediation can include the removal and processing of the waste tires, the elimination of environmental contamination and vector control.

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THE SOUTHERN OFFICE OF THE COUNCIL OF STATE GOVERNMENTS
P.O. Box 98129 | Atlanta, Georgia 30359
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plemented by the regulatory agencies that are responsible for environmental quality and protection. Nationally, a total of 36 states have a mandated tire fee.² The highest fees in the SLC are imposed by Louisiana, with fees of up to \$10 for off-road tires. The lowest fees in the region are imposed by Missouri and Oklahoma, with fees of \$.50 per tire. Louisiana and Oklahoma both utilize a tiered fee system. Meanwhile, North Carolina imposes a privilege tax^B instead of a fee.

Effective waste tire programs require consistent and ongoing funding. Variability in funding may negatively impact a state's ability to continually monitor and enforce waste tire programs. Dedicated trust funds have been used successfully to achieve uniformity but are vulnerable to redirection to a state's general fund during budget shortfalls. Funding levels equivalent to at least \$1 per waste tire have proven to be adequate to implement comprehensive programs.³

Tracking and Certification

Regulations and infrastructure are necessary in order to effectively assess and remediate waste tire stockpiles. Without the ability to track the movement and processing of waste tires, states are unable to fully monitor the disposal of tires and prevent the formation of new illegal stockpiles. Most states in the SLC have developed rigorous systems for tracking tires, as well as certification and permitting processes for waste tire processors, transporters and storage facilities. A states' ability to track the life of a tire from its point of manufacture to the point of end use or disposal can enhance compliance and reduce the number of new illegal stockpiles.

Collection Sites

Waste tire storage facilities generally are required to be permitted or registered in order to store tires above an established minimum. This minimum can range from 50 to 10,000 tires.⁴ State regulations often specify storage requirements to enhance the safety of the storage facility. In many states, regulations are placed on the distance that must be maintained between each waste tire pile, the height of each pile, buffers between property lines and

^B A privilege tax is a tax levied in exchange for a privilege or license granted to the taxpayer. The fee for registering a motor vehicle is one example of a privilege tax.

waste tire storage areas as well as drainage systems, vector control and fire preparedness.

Usage

Waste tires can have second lives as repurposed or recycled products. They can be recycled by cutting, punching, or stamping them into various rubber products after removal of the steel bead. Products include floor mats, belts, gaskets, shoe soles, dock bumpers, seals, muffler hangers, shims, and washers.⁵ Whole tires can be recycled or reused as highway crash barriers, tire swings, planters and for a variety of agricultural purposes. Tires can be used as fuel either in shredded form – known as tire-derived fuel (TDF) – or whole, depending on the type of combustion device. Scrap tires typically are used as a supplement to traditional fuels such as coal or wood. According to the Rubber Manufacturers Association, of the 130 million waste tires used as fuel each year, 41 percent is used by the cement industry; 20 percent by the pulp and paper industry; 18 percent by electric utilities; 13 percent by industrial boilers; and 8 percent by dedicated tire-to-fuel facilities.⁶

The states of Florida and South Carolina have been leaders in the use of asphalt rubber in highway pavement. Alabama, Florida, Georgia, and South Carolina allow tire shreds to be used in construction of drain fields for septic systems. Kentucky has used funds generated by tire disposal fees for market development, including expanded use of TDF. In Tennessee, each county receives a per ton dollar amount from the state's Waste Tire Grant Fund for waste tires collected and processed for an alternate end use. Meanwhile, Mississippi and North Carolina administer funds to improve the use of recycled materials, including scrap tires.

What are the risks?

Large waste tire stockpiles present a threat to human health and the environment. They provide an ideal breeding ground for mosquitoes, which can carry and transmit life-threatening diseases such as dengue fever, encephalitis, and the West Nile virus. Lightning strikes, equipment malfunctions, arson and other events can cause large waste tire stockpiles to ignite. The longer a stockpile persists, the more likely it is to catch fire. Waste tire fires may cause air, surface water, soil, groundwater, and re-

sidual contamination that can adversely affect human, animal, and plant life. When ignited, waste tire piles generate dense, black smoke containing partially combusted hydrocarbons. The smoke plume can cause air pollution that negatively impacts area homes and businesses. The residuals (ash, wire, and unburned rubber) from a waste tire fire often require special handling and disposal that can be costly to facilitate.

Alabama

Responding to the large number of illegal tire dumps in the state, legislation was passed in 1999 that established a Scrap Tire Program. The legislation also created a Scrap Tire Study Commission to address the problem and recommend ways to eliminate existing waste tire^C dumps, as well as to suggest means of preventing the formation of new dumps. The Scrap Tire Study Commission worked with representatives of tire retailers, scrap tire processors, tire manufacturers, tire users, city and county governments and environmental groups to draft the Alabama Scrap Tire Environmental Quality Act, expanding the 1999 legislation. The Act was passed by the Legislature in June 2003 and deemed necessary to create a framework for remediating existing scrap tire stockpiles, preventing the formation of new stockpiles, creating a uniform statewide system of regulation for scrap tires and stimulating waste tire end use markets.

Receivers of waste tires are required to use a permitted transporter to haul tires for disposal.^D To receive a permit, all transporters must register with the Department of Environmental Management. Once permitted, they are issued a receiver number and vehicle decals, with permits valid for three years. Waste tire transporters may only deliver waste tires to a receiver, processor or other permitted transporter or to an authorized landfill. Receivers of waste tires who are transporting used or scrap tires for their own purposes must keep appropriate documentation that each transport is for their own use and for an indicated purpose; such records must be maintained for three years.⁷

^C The Alabama Department of Environmental Management defines waste or scrap tires as any pneumatic tire no longer suitable or usable for its original purpose and includes, but is not limited to, all tires with a manufacturing defect, except those that are in the process of being returned to the manufacturer for a refund.

^D Receivers are not required to use a permitted transporter when transporting tires between business locations.

Each time a consumer purchases a new tire in the state, a scrap tire environmental fee of \$1 is collected at the point of sale and must be remitted to the state Department of Revenue on a monthly basis. Tire dealers are permitted to retain 7 percent of fees collected to cover the cost of collection and payment of fees to the Department of Revenue. Out-of-state tires, such as fleet tires, not purchased in the state must be returned to the point of origin for disposal or the scrap tire environmental fee must be imposed for each tire brought into the state and must also be remitted to the Department of Revenue. The net proceeds of the scrap tire environmental fees deposited into the fund the previous year are allocated as follows: between 45 percent and 75 percent covers the costs of remediation, abatement or removal of illegal stockpiles including equipment, labor, supplies, and materials; a maximum of 20 percent covers costs associated with the development and enforcement of regulations; up to 10 percent finances programs delegated to counties; a maximum of 7 percent compensates tire retailers for collection and accounting costs associated with the collection of fees; and a maximum of 2 percent pays the costs of administration of the Department of Revenue.⁸

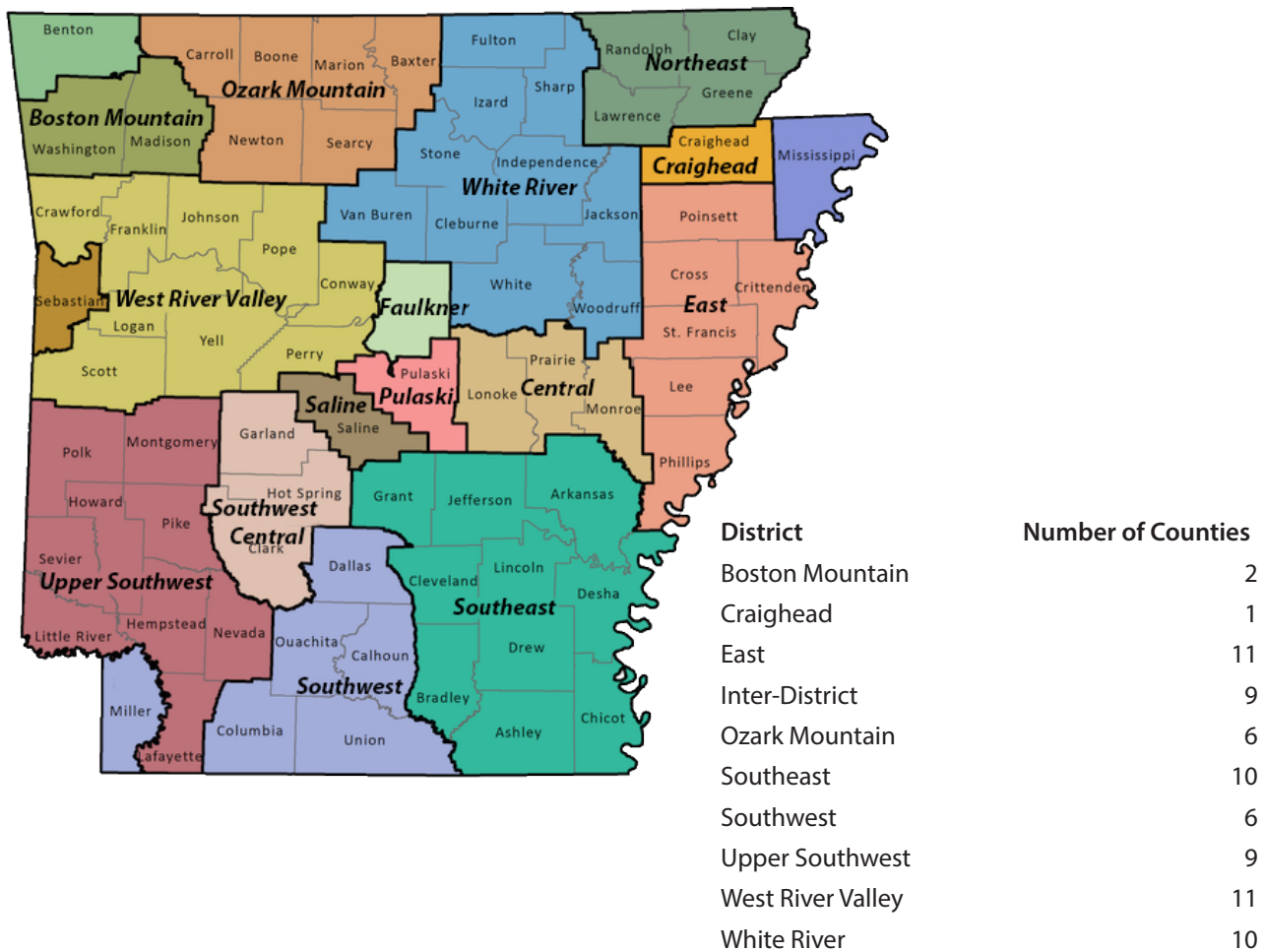
The Scrap Tire Environmental Quality Act includes penalties for those found to be in violation. The penalty for unlawfully accumulated waste tires is a maximum of three months imprisonment, a maximum of six months imprisonment for unlawfully processing waste tires, and a maximum of one year imprisonment for unlawfully transporting waste tires. Penalties also are established for unauthorized disposal. Individuals convicted of unauthorized disposal may be subject to a term of between one and 10 years in prison and also may be subjected to a fine of up to \$10,000. Anyone convicted of any of the aforementioned violations also may be personally and financially responsible for any necessary site remediation. In addition to the financial responsibility, a fine of up to \$5 per tire is levied against a party who accumulates, transfers, transports, processes or unlawfully disposes of waste tires.

Arkansas

In 1991, House Bill 1170 established a framework for waste tire^E management and disposal and directed the

^E The Arkansas Pollution Control and Ecology Commission defines a waste tire as a whole tire that no longer is repairable or

Figure 1 Arkansas Regional Waste Tire Management Districts



Source: Arkansas Department of Environmental Quality

Pollution Control and Ecology Commission to adopt rules and regulations necessary for the Arkansas Department of Environmental Quality (ADEQ) to implement the powers and duties of the Commission. Rules approved by the Commission in 2005 provide the most current regulatory framework.

The state issues a general permit for waste tire collection centers, processing facilities and mobile processing facilities. The general permit is valid for five years and may be issued to a waste tire collection center which stores no more than 3,000 waste tires at a time or up to a maximum

retreadable or no longer suitable for its original intended purpose because of wear, damage, or defect. Waste tire includes, but is not limited to, used tires and processed tires.

of 10,000 tires that have been compacted and baled^F at a time.⁹ Likewise, a general permit may be issued to a waste tire processing facility used for processing no more than 500 waste tires during any 30 day period.¹⁰

The Department of Environmental Quality administers the state's Waste Tire Program, which is funded through fees placed on the purchase of new tires and collected by tire dealers for the Department of Finance and Administration (DFA). The fees are charged by tire retailers to any consumer who purchases a new tire for use on a motor vehicle. The fees are retained by the retailer and paid monthly to the director of the DFA. Retailers are permitted to retain up to 5 percent of fees collected to cover

^F Compacted and baled tires are tires that have been mechanically compressed and tied with interlocking wrappings.

administrative costs. A fee of \$2 per tire is imposed on all automobile tires, and \$5 imposed on truck tires. Tires imported into the state are charged an additional fee of \$1.¹¹ The DFA deposits proceeds into a grant fund administered by ADEQ. Funding is allocated to 10 waste tire management districts throughout the state, illustrated in Figure 1. Each district is required to draft and submit a waste tire management plan for the approval of ADEQ. The districts implement all facets of waste tire management — collection, transportation, recycling, disposal, and remediation projects. Each district is governed by a Solid Waste Management Regional Board, which is responsible for establishing waste tire collection centers. Funds secured through the collection of waste tire fees are allocated to the districts using four separate types of funding disbursements: additional truck tire fees, abatement grants, support grants and waste tire management grants. Districts may apply for applicable grants as needed and grants are dispersed quarterly.¹²

Florida

Florida's waste tire^G management program was implemented in 1989. The Department of Environmental Protection (DEP) released an updated waste tire rule in 2012, providing the most recent framework for waste tire management and the remediation of illegal stockpile sites.

State law requires tire retailers to charge a fee of \$1 for each new tire sold. All collected fees must be paid to the Department of Revenue on a monthly basis. The proceeds of the waste tire fee, less administrative costs, are then transferred into the Waste Tire Grant Fund, administered by the DEP. The revenue from these fees finances a number of initiatives including mosquito control (up to 14 percent), research and training programs (up to 4.5 percent), litter prevention (up to 4.5 percent) and a solid waste management grant program for activities related to recycling and waste reduction (up to 37 percent).¹³ Additionally, up to 40 percent of revenue collected from waste tire fees finances the DEP's solid waste management activities, including the provision of technical assistance to local governments, regulator and administrative functions and the implementation of educational programs.

^G State code defines a waste tire as a tire that has been removed from a motor vehicle and has not been retreaded or regrooved. The term includes, but is not limited to, used tires and processed tires. The term does not include solid rubber tires and tires that are inseparable from the rim.

State law also allows for the DEP to recover remediation costs incurred by the Fund to clean up illegal waste tire dumps.

Waste tire transporters must be permitted with the state. Likewise, waste tire collectors may not contract with waste tire transporters unless the collector also is permitted by the state. Any entity contracting with a waste tire collector for the transportation of more than 25 waste tires per month from a single location is required to maintain records for that business location and make them available for review by DEP or by law enforcement officials.¹⁴ The records must contain the date of transport, quantity, registration number of the collector, and the name of the driver. On an annual basis, owners or operators of waste tire sites must provide closing cost^H estimates to the DEP. These estimates must be based on the quantity of waste tires stored on site or the quantity of waste tires that are permitted to be stored on site, whichever is greater.¹⁵ The estimate must be conducted by a third party and certified by a professional engineer. Along with the closing cost estimate, owners or operators are required to provide proof of financial assurance^I issued in favor of the state for the amount of the closing cost estimate.¹⁶

All vehicles used to transport waste tires must have a DEP-issued decal containing a waste tire collector registration number. Decals must be renewed annually and all vehicles operated by the same collector may be registered by a single application with separate listings for each vehicle. Records detailing the total quantity of waste tires collected,^J as well as the origination and destination of each tire collected, must be maintained by the collector for three years and submitted annually to the DEP.

Waste tire processing facilities are permitted to store no more than 60 times the amount of material processed daily, and storage of whole waste tires cannot exceed 30

^H Closing costs are all costs associated with the closure, sometimes referred to as clean closure, of a waste tire processing or collecting facility. These costs include the removal of all tires from the facility as well as the remediation of any contamination caused by waste tire accumulation.

^I Financial assurance is a mechanism designed to demonstrate that funds will be available to ensure compliance with statutes/regulations and permit requirements of scrap tire transporters, processors or collectors. While insurance is intended to cover events that may occur, assurance covers events that are inevitable.

^J Expressed in tons.

times the amount of material processed daily. State rules cap at 10,000 the amount of used tires that can be stored separately from other waste tires. On an annual basis, at least 75 percent of the aggregate material delivered to waste tire processing facilities must be processed and removed for disposal or recycling. Each time a waste tire collector receives a load of waste tires, information on the number of waste tires and the transporter of the tires must be recorded. This information, along with all transport records, must be retained for a minimum of three years.

All waste tire sites, collection centers, processing facilities and disposal facilities which store waste tires are required by regulations to comply with very specific safety and physical storage requirements. The rules mandate that each facility have a recorded fire safety plan and an annual fire safety survey as well as emergency contact information. For both indoor and outdoor sites, the rules outline the acceptable height and width limits for waste tire piles, pile clearance specifications and temperature control requirements.

Georgia

Georgia began regulating waste tire^K disposal in the early 1990s. Rules governing waste tires were promulgated by the Department of Natural Resources' Environmental Protection Division (EPD). On July 1, 1992, the state began imposing a tire management fee of \$1 per tire sold. The fee is collected by retail dealers at the time the dealer sells a new tire to a customer.^L Under rules adopted by the EPD, a waste tire is "used, reused, or recycled" if it is employed as an ingredient in a process to make a product (such as utilizing crumb rubber to make rubber-asphalt), used as a substitute for a commercial product (such as utilizing shredded tires as fuel) as long as the substitution does not pose a threat to human health or the environment, or reused for its original intended purpose as a used tire or reused for other purposes such as playground equipment, offshore reefs or erosion control.¹⁷ Retail

^K The Environmental Protection Division of the Georgia Department of Natural Resources defines a waste or scrap tire as a tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.

^L Tires with a rim size less than 12 inches, tires from any device moved exclusively by human power and tires used exclusively for agricultural purposes (except farm truck tires) are exempt from these fees.

dealers are required to keep records of the number of tires sold and report this information to the EPD on a quarterly basis. Likewise, fees must be remitted to the EPD quarterly. For collecting, reporting and paying the fees due, each distributor or retailer is allowed to retain 3 percent of the first \$3,000 in fees reported and half of a percent of fees exceeding \$3,000.¹⁸

Scrap tire generators^M must apply to the EPD for a Scrap Tire Generator Identification Number which must be included on all waste tire shipment manifests. Separate identification numbers are issued for generators that have multiple locations. At the point of generation, scrap tire generators are required to initiate a manifest to transport waste tires to an end user or to an approved waste processing or disposal facility. Transporters must return a completed copy of the manifest to the scrap tire generator within 30 days of taking possession of waste tires. These manifests must be retained for three years.

Transporters of waste tires are required to obtain a Scrap Tire Carrier Permit from the EPD. While there is no fee associated with this permit, the transporter must maintain and provide proof of financial assurance in the form of a performance bond or letter of credit. Carriers transporting up to 500 waste tires per month must maintain assurance of \$5,000, while those transporting more than 500 waste tires must maintain assurance of \$10,000. Waste tire generators must ensure that the transporter of waste tires holds a valid Scrap Tire Carrier Permit. Carriers may only transport waste tires to an end user, recycler, processor, sorter, or other disposer as approved and permitted by the EPD. On a quarterly basis, permitted carriers are required to report the number of waste tires and their manner of disposal to the EPD.¹⁹

Waste tire processors that store waste tires indoors must manage conditions that comply with *The Standard for Storage of Rubber Tires*, NFPA 231D-1986 edition, published by the National Fire Protection Association. Rules for the outdoor storage of waste tires were promulgated by the EPD. Waste tires stored outdoors must be placed in piles that are no more than 15 feet high and 50 feet wide and must not exceed a total area of 10,000 square

^M In Georgia, scrap tire generators are any persons who generate scrap tires. Generators may include, but are not limited to, retail tire dealers, retreaders, scrap tire processors, automobile dealers, private company vehicle maintenance shops, garages, service stations, and city, county, and state governments.

feet. Each pile is required to have a 50-foot wide fire lane around the perimeter. State regulations prohibit processors from undertaking operations involving open flames within 25 feet of a waste tire pile and ensure that measures to control mosquito and rodent activity in the area are in place.²⁰

Regardless of storage location, waste tire processors are required to record and maintain the following information for three years: name and waste tire carrier permit number of the carrier who delivered the waste or processed tires to the facility; quantity or weight of waste tires or processed tires received from that carrier; quantity and type of all waste tires removed for reuse or recapping; and name and location of the user receiving the tires. These reports must be submitted to the EPD on a quarterly basis.²¹

Kentucky

In 1990, the General Assembly passed House Bill 32 creating the waste tire^N control program and establishing the Waste Tire Trust Fund. In 1994, the General Assembly extended the program by four years and added a prohibition on the open burning of waste tires. In 1998, the General Assembly repealed the existing waste tire control program and created a new program. The revised statute retained the fee collected on new motor vehicle tires, the Waste Tire Fund, and registration requirements for accumulators of waste tires. New additions to the waste tire control program included financial assurance requirements for accumulators, processors, and transporters of waste tires, grants for waste tire management programs and reporting requirements to evaluate the effectiveness of the program.²²

A fee of \$1 is imposed on the purchase of each new tire in the state. This fee is collected by retailers at the point of sale and is remitted to the Department of Revenue monthly. These fees are used for implementing the waste tire control program, including waste tire amnesties,^O remediating illegal stockpiles and funding for grants that

^N According to the Kentucky Revised Statutes 224.50-868, when a person purchases a new motor vehicle tire in Kentucky to replace another tire, the tire that is replaced becomes a waste tire subject to the waste tire program.

^O Waste tire amnesties are events that allow illegal waste tire accumulators to deposit their tires without penalty.

manage and develop alternative markets for waste tires. The program currently is set to expire on June 30, 2016.²³

After remitting 95 percent of the fees, retailers are allowed to keep the remaining 5 percent to cover the administrative costs of fee collection. Retailers also are required to submit a monthly report to the Department of Revenue detailing the number of new tires sold during the month.²⁴

The primary market for waste tire products in the state is TDF products. Applications include use in boilers at paper mills, cement kilns, and utilities that use whole or processed tires as a supplemental energy resource, displacing a small percentage of fossil fuel usage. The second most common application for waste tire products is the use of ground rubber as playground safety cushioning, colored landscaping, mulch and mixed turf for athletic fields.²⁵

Like most states, Kentucky requires that waste tires be tracked through the use of receipts (or manifests). The final processor of waste tires or transporter who arranges for disposal out of state is required to return a copy of the manifest for disposal or recycling to the waste tire generator (often retailer of origination) within 30 days of receiving the waste tires.

Louisiana

Rules governing the management of waste tires^P in the state were promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Solid Waste Division in January 1992. The policies make it unlawful for anyone to amass or transport more than 20 tires without appropriate authorization from the state.²⁶

The state requires waste tire processing and collection facilities to demonstrate and document the facility's ability to cover the cost of accidents and closure. Waste tire processing and collection facilities are required to carry \$1 million in liability insurance. They also must submit a closure plan and financial assurance sufficient to cover the cost of a clean closure,^Q as estimated by a third party.²⁷

^P In Louisiana, waste tire means a whole tire that no longer is suitable for its original purpose because of wear, damage, or defect.

^Q Clean closure is the act of closing a facility whereby all waste tires and waste tire material are removed, including any resulting on- or off-site contamination.

These mechanisms ensure that the state is not liable for the cost of remediation (for example, clean up of a waste tire fire) or facility closure. Additionally, by holding processing and collection facilities financially accountable the state provides incentives for compliance with state waste tire rules and regulations. Further protecting the state from incurring the cost of illegal waste tire piles, state code holds property owners accountable for the cost of remediation. Property owners also are required to provide disease vector control and keep the site clear of excessive underbrush.

While many states in the SLC impose a flat waste tire fee, Louisiana is among two states that impose a tiered system. The state charges a fee of \$2 for passenger tires, \$5 for medium truck tires and \$10 for off-road tires. For recapped or retreaded tires, a waste tire fee of \$1.25 is collected upon the sale of each recapped or retreaded tire. All fees collected must be remitted to the Office of Management and Finance, along with a Monthly Waste Tire Fee Report. Each retailer is required to maintain a complete record of the quantity of tires sold, together with tire sales invoices, purchase invoices, inventory records, and copies of each Monthly Waste Tire Fee Report for a minimum of three years. Finally, for each new tire sold, retailers are obligated to retain one waste tire for collection and disposal, unless the customer chooses to retain the waste tire.²⁸

The Office of Management and Finance deposits all fees collected from the purchase of new tires into the Waste Tire Management Fund. The Fund is used in myriad ways. Waste tire processors are entitled to receive a minimum of \$1.50 per 20 pound equivalent for the processing and marketing of waste tires. Additionally, a maximum of 10 percent of the waste tire fees collected may be utilized for program administration; 5 percent for research and market development; and 10 percent for unauthorized tire pile cleanup.²⁹

Like most states, Louisiana tracks waste tires through the use of signed manifests. However, the state has codified an additional mechanism for tracking waste tires by documenting unmanifested^R tire receipts. Processors and

^R Unmanifested waste tires are waste tires that lack the manifest used to identify the quantity, composition, origin, routing and destination of the tires and/or waste tire material during transportation from the point of generation to the authorized destination.

collectors are not permitted to accept more than five unmanifested waste tires per day per customer. For each unmanifested load received, the processor or collector must document the name and address of the customer; license plate number of the vehicle delivering the tires; phone number of the customer; number of tires received; date and time; and the signature of the customer delivering the tires. This practice assists the state in identifying illegal waste tire collection sites. Processors and collectors must submit a monthly report of all received tires, along with copies of manifests for each load received, and submit the log of unmanifested loads to the Office of Management and Finance. Completed manifests must be maintained by all parties for a minimum of three years.³⁰

Mobile processing units are authorized to operate in the state. However, mobile processors must deposit waste tires into a trailer or other receptacle for immediate removal from the site. It is unlawful for processed waste tire products to be deposited on the ground. Mobile processors may only operate at authorized collection centers and permitted stationary processing facilities and must maintain a complete set of records pertaining to manifested tires or shredded waste tire material for a minimum of three years.

Waste tire processors may apply to the Office of Management and Finance for subsidized funding to assist them with waste tire processing and marketing costs. Standard permitted processors are eligible to receive a minimum of \$1.50 per tire equivalent unit of 20 pounds of waste tire material that actually is recycled or that reaches certifiable end-market uses. Standard permitted processors must provide a certificate of end use demonstrating that the waste tire material has been recycled.³¹

In addition, in an effort to encourage market research and development of new uses for waste tires and waste tire products, the state provides grants and loans.

Mississippi

Beginning on July 1, 2000, state code prohibited the disposal of waste tires^S in any form in landfills. The state administrative code also prompts the Department of

^S In Mississippi, a waste tire is a whole tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.

Environmental Quality (DEQ) to promulgate rules governing waste tire collection sites, processing facilities, haulers, disposal sites and requirements for waste tire collection, storage, processing, and disposal.

Like many states, rules governing waste tire management dictate specific operational standards that must be followed by indoor and outdoor waste tire collection sites. These standards include specifications governing the height, width and length of waste tire piles; width of clearance around each pile; fire control and prevention measures; and mosquito and rodent control. Maximum collection capacity for each facility is determined on a per site basis; however, sites generally are not permitted to store more than 5,000 tires at any time and must be processed or removed from the site within 90 days.³²

Waste tire collectors must maintain detailed records for a minimum of three years. For loads received by or shipped from the site, collectors must document the name and waste tire hauler identification number for the hauler who transported the tires, quantity of tires shipped or received and the name and address of the shipper or receiver. For loads of fewer than five tires shipped or received, collectors must record the total monthly quantity of waste tires received and shipped. This information is aggregated and submitted in a monthly report to the DEQ.

State law requires any tire wholesaler in the state to collect a fee of \$1.00 for each new tire sold with a rim diameter of less than 24 inches and \$2.00 for each new tire sold with a rim diameter of 24 inches or greater.³³ However, retailers purchasing new tires from an out-of-state wholesaler are required to pay the tire fee directly to the State Tax Commission if the tire fee is not paid by the out-of-state wholesaler. The fees must be remitted monthly by the wholesaler or retailer to the State Tax Commission. The fees are used to fund the provisions of the state waste tire laws and regulations.³⁴

There are many approved processing and end uses for waste tires in the state. Processing methods include slicing the waste tires vertically, resulting in each waste tire being divided into at least two halves; chopping or cutting the waste tire into a minimum of four equal pieces; shredding or chipping waste tires; and grinding into crumbs. After they have been appropriately processed, waste tires

may be used for agricultural erosion control. Finally, grants are offered by the state to promote innovation in waste tire recycling.

Missouri

By 1990, illegal waste tire^T stockpiles in Missouri had become so widespread that the General Assembly passed Senate Bill 530, allowing scrap tires to be regulated as a significant part of the waste generated in the state. The legislation also authorized a waste tire fee.³⁵

Missouri levies a fee of \$.50 on the purchase of new tires, one of the lowest fees in the country. The fee was initially introduced in 1990 and extended in 1999. In January of 2004, the fee expired. However, the General Assembly reinstated the fee in 2005 with Senate bill 225. The waste tire fee was subsequently renewed in the 2009 and 2014 legislative sessions and currently is scheduled to expire again on January 1, 2020. The waste tire fee supports enforcement of the waste tire laws and cleanup of illegal waste tire stockpiles throughout the state.³⁶

As with most states, Missouri has implemented a record keeping system to track the management of waste tires. All records must be maintained for at least three years. For each load a waste tire transporter delivers to an approved destination, a tracking report must be completed and submitted monthly to the Department of Natural Resources' (DNR) Solid Waste Management Program.³⁷

Waste tire processing and mobile processing facilities are required to craft a contingency plan designed to minimize hazards from fires, runoff of contaminants resulting from fires and from mosquitoes. These contingency plans must include any actions personnel are required take in the event of the aforementioned hazards; an evacuation plan in case of fire; evidence that a fire contingency plan has been provided to the fire department; plans for final disposition of waste tires; evidence of compliance with the Department's Clean Water Law; and evidence of compliance with local zoning laws. The rules promulgated by the DNR also include requirements for runoff protection, use of larvicides, site and vector control, inventory and record keeping.³⁸

^T In Missouri, a tire is considered a waste tire if it no longer is suitable for its original intended purpose because of wear, damage, or defect.

Waste tire processors are required to keep documentation of the number of tires received each week, number of tires removed to final disposition each week, final disposition of removed tires and the name and permit number of each scrap tire transporter carrying the tires to or from the facility. These records must be summarized monthly and provided to the DNR. Waste tire processors also are required to create closure, removal and site restoration plans for their facilities. These plans must be accompanied by cost estimates and financial assurance.³⁹

Approved end uses for waste tires in the state include tire-derived fuel, conversion into products for resale, erosion abatement and drainage purposes; securing covers over silage, hay straw or agricultural products; and recreational or structural purposes. However, uses comprising 100 or more waste tires must be approved by the DNR, be part of an engineered structure and properly held in place or anchored.

North Carolina

By law, whole tires were banned from being disposed of in landfills as of March 1, 1990. State code directs the Department of Environment and Natural Resources (DENR) to promulgate rules for waste tire^U management. Instead of a fixed fee, the state imposes a 2 percent privilege tax on tire retailers for each new tire sold with a bead^V diameter of less than 20 inches and a 1 percent privilege tax on tires with a bead diameter of 20 inches or greater.⁴⁰ In addition to taxes imposed on the sale and purchase of new tires, a civil penalty of \$50 is charged to anyone who illegally hauls or disposes of a waste tire. Each violation constitutes a separate fine.

Tax proceeds are allocated quarterly. Each quarter, the Department of Revenue credits 30 percent of the net tax proceeds collected from new tire purchases to the general fund. The remaining 70 percent of proceeds are distributed among the counties on a per capita basis. Counties must use the distributed funds for the disposal of waste tires and the remediation of inactive hazardous waste sites.⁴¹

^U In North Carolina, a waste or scrap tire is defined as a tire that no longer is suitable for its original, intended purpose because of wear, damage, or defect.

^V The bead component of the tire is a non-extensible composite loop that anchors the body plies and locks the tire onto the wheel assembly so that it will not slip or rock the rim.

Each county in the state is responsible for developing waste tire disposal procedures. They are obligated to provide (or contract with another unit of local government or private business) at least one waste tire site in that county. These county facilities may charge a disposal fee only if the waste tires being delivered are new tires that do not meet manufacturer sale standards or if they are deposited without the required certificate.

Rules promulgated by the DENR prohibit waste tire collection sites from storing more than 60,000 waste tires at any given time. Waste tire processors that store the waste tires indoors must manage conditions that comply with *The Standard for Storage of Rubber Tires*, NFPA 231D-1986 edition, published by the National Fire Protection Association. Additionally, rules governing waste tire management dictate specific operational standards that must be followed by indoor and outdoor waste tire collection sites. These standards include specifications governing the height, width and length of waste tire piles; width of clearance around each pile; fire control and prevention measures; and mosquito and rodent control.⁴²

Owners and operators of waste tire collection sites are required to demonstrate financial responsibility for site closure, property damage and bodily injury to third persons and public property. Financial responsibility for site closure is determined as \$1.50 per tire for the maximum number of tires the facility is permitted to store at any one time. Collection sites also must maintain \$2,500 in coverage per each batch of 1,000 tires stored on site, with an annual aggregate of \$5,000 in coverage per each batch of 1,000 tires stored on site. Proof of financial responsibility does not limit the responsibility of owners or operators from covering the full costs of site closure and cleanup, expenses associated with any environmental restoration necessitated by activities at the site, and liability for all damages to third parties or private or public properties caused by the establishment and operation of the site.⁴³

In order to track the management of waste tires in the state, rules require the owner or operator of a waste tire processing facility to collect and maintain records for all waste tires shipped from the facility. These must include the name of the hauler or merchant; hauler or merchant identification number; and documentation of receipt of the tires by a receiving facility. Certification forms must be completed for all tires received. All records must be

maintained for a minimum of three years. Owners or operators must also submit an annual report that summarizes the total quantity of waste or processed tires received by and shipped from the facility, total number of waste or processed tires shipped to each receiving facility identified by name and address, and the total number of tires located at the facility on the first day of the calendar year.

State law authorizes numerous end uses for waste tires, including: incinerating; retreading; constructing crash barriers; controlling erosion; chopping or shredding; grinding into crumbs for use in road asphalt, producing TDF and as raw material for other products; slicing vertically; sludge composting; using for agriculture-related purposes; chipping for use as an oyster clutch; cutting, stamping or dyeing; pyrolyzing and other physico-chemical processing; hauling to out-of-state collection or processing sites; and monofilling split, ground, chopped, sliced, or shredded waste tires. In addition to this comprehensive list of authorized end uses, state law allows the DENR to adopt rules approving other permissible methods of disposal.⁴⁴

Oklahoma

House Bill 1532 in 1989 initiated the Oklahoma Used Tire Recycling Act. As with Louisiana, Oklahoma has a tiered fee system based on waste tire^w type, rather than a flat fee for all tires. For the sale of waste tires with a rim diameter less than or equal to 19.5 inches, the used tire recycling fee is \$2.50; for the sale and/or registration of waste tires with a rim diameter greater than 19.5 inches, a used tire recycling fee of \$3.50 is imposed; and for the sale and/or registration of motorcycle tires, the used tire recycling fee is \$1.00. State law has established a separate tiered fee system for tires used for agricultural and husbandry purposes. Used tire recycling fees for these tires are set at \$0.05 per pound of the tire, with a minimum fee of \$2.50. Tire dealers are required to remit 97.75 percent of the fees to the Oklahoma Tax Commission, while motor license agents are required to remit all but \$1.00 of the fee assessed on each vehicle. All fees received by the Commission as proceeds from the assessments are deposited into the state's Used Tire Recycling Indemnity Fund. In-

^w Oklahoma defines a waste or used tire as an unprocessed whole tire or tire part that no longer can be used for its original intended purpose.

terest earned, gifts, grants and reimbursements also may be retained by the Fund.⁴⁵

The Used Tire Recycling Indemnity Fund annually disperses revenue in a number of ways. By law, the first allocation, 28 percent, is transferred annually to the Department of Environmental Quality Revolving Fund for implementing requirements related to emissions control, monitoring and modeling the impacts on Oklahoma of air pollution from other states and for implementing other air pollution requirements. After this disbursement, 2.25 percent is allocated to the Oklahoma Tax Commission and 5.75 percent is transferred to the Department of Environmental Quality to cover the administrative costs of implementing the Used Tire Recycling Act. After all disbursements are made, the balance in the Fund is made available to compensate waste tire processing and recycling facilities, individuals or companies engaged in erosion control projects, and local and county governments using waste tires in engineering projects. If, after these allocations, funds still remain, they are made available as compensation to used tire facilities for used tire processing, recycling or facilities engaged in the manufacture of TDF products. Excess funds also may be used to provide compensation to a person or corporation permitted by the U.S. Army Corps of Engineers to provide services for erosion control projects using waste tires and to a unit of local or county government using baled tires in an engineering project.⁴⁶

Beginning in 1994, and occurring every even year thereafter, the state auditor is required to perform (or contract with an auditor or auditing company to perform) an independent audit of the Used Tire Recycling Indemnity Fund. For each audit conducted, an amount of no more than \$50,000 may be allocated from the Fund to the state auditor and inspector to cover the cost of the audit.

It is unlawful to remove more than 10 used tires from a tire dealer's possession, or to transport more than 10 used tires in Oklahoma, unless a manifest form approved by the DEQ, which documents the removal and approved disposition or sale of the tires, is provided by the dealer. A Waste Tire Compensation Manifest must be used for transportation of waste tires to a waste tire facility entitled to receive compensation from the Used Tire Recycling Indemnity Fund. A Waste Tire Tracking Manifest must be used for transportation of waste tires to any location other than a waste tire facility. Within 30 days of

receipt of the waste tires, the receiving facility must return a completed copy of the manifest to the waste tire generator. Copies of the manifest must be maintained by the generator, transporter, and receiving facility for a five-year period, the longest period required by any SLC state.

South Carolina

As noted in the November 2013 *SLC Regional Resource* entitled *Tire Manufacturing: Southern States Roll to the Top*, South Carolina leads the nation in tire manufacturing.⁴⁷ The state began regulating and managing waste tires^x through the South Carolina Solid Waste Policy and Management Act of 1991. Retailers are required to collect a \$2 fee from customers. Fees collected must be remitted to the Department of Revenue on a monthly basis. However, retailers are permitted to retain 3 percent of all fees collected to cover the administrative costs of the program. The Department of Revenue is required to credit the funds to the state treasurer.⁴⁸ The state treasurer allocates \$1.50 for each tire sold to each county based on population. Counties are required to use these funds for the collection, processing, or recycling of waste tires. The remaining portion of the tire recycling fee is credited to the Solid Waste Management Trust Fund for the Waste Tire Grant Trust Fund. State law requires that the waste tire recycling fee be reviewed every five years.⁴⁹

Rules promulgated by the Department of Health and Environmental Control (DHEC) necessitate that any person transporting more than 15 tires at a time document the transport using a South Carolina Waste Tire Manifest. The manifest is used to track and certify the movement of waste tires from the point of origination to a permitted waste tire collection facility, solid waste management facility or a waste tire processing facility. Transporters are required to sign the manifest and secure the signatures of both the waste tire generator and a representative of the waste tire collection, processing or disposal facility to which the tires are delivered. The manifest documents the quantity of waste or processed tires collected; name, address, and contact information of the waste or processed tire generator; name, address, and contact information of the location where the tires are delivered; number of tires

^x In South Carolina, a waste tire is defined as a tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.

sorted for reuse; and the quantity of waste or processed tires delivered. The waste tire transporter is required to provide a completed, final manifest to the waste tire generator within 30 days of collecting the tires. Manifest records must be maintained by all parties for three years.⁵⁰

As required by the state, waste tire transporters and processors must provide financial assurance in the amount of \$10,000, issued in favor of the DHEC, and carry financial assurance sufficient to cover the final closure of the facility. This should be based on a third party estimate and account for complete closure by disposing of the maximum quantity of waste and processed tires at a facility. The estimate must be performed and adjusted annually.⁵¹

Tennessee

The Tennessee General Assembly passed the Solid Waste Management Act of 1991, which created the state's Waste Tire^y Program and banned tires from disposal in landfills.⁵² Tires may be disposed of in the same manner as other waste after they have been shredded, chipped, chopped, sliced, or have otherwise been processed and are rendered not whole to effectively prevent floating. The program is funded by a \$1.35 fee paid by consumers on new tires purchased from a retail location.⁵³ Quarterly, retailers must submit a report documenting the number of tires sold during the preceding quarter and all fees collected from those sales. However, dealers may retain \$0.10 for each tire sold. This is intended to cover the costs of administering the fee. Each county is entitled to \$1 for each tire sold in the county for the beneficial end use of waste tires. Additionally, each county must also provide an annual report to the Tennessee Department of Environment and Conservation (TDEC) on the number of waste tires the county manages and how the waste tires are used. Counties may charge an additional fee if the costs associated with managing the tires exceed the revenues received. The Act requires each county to provide one temporary waste tire collection site for its citizens and tire dealers.⁵⁴ The remaining \$0.25 is retained by TDEC for the purpose of identifying and remediating illegal waste tire dumps. Unlike other states in the SLC region, Tennessee does not require the tracking of waste

^y Tennessee defines a waste tire as a tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.

tire management through the use of state manifests or receipts.

The TDEC is required to provide assistance grants to counties and develop a program to fund beneficial uses for their waste tires.⁵⁵ Counties are prohibited from disposing of tire shreds if beneficial end uses are available. A beneficial end use of waste tires can include the use of chipped tires in a landfill; in public works construction as backfill material in an embankment or behind a retaining wall; as a subgrade base beneath pavement; in the construction of subsurface sewage disposal systems; and ground water/surface water diversion systems.

Texas

Texas began regulating the management of waste tires^z with the Solid Waste Disposal Act of 1989 but does not require a statewide fee or tax for waste tire management. Generators are permitted to charge customers for disposal or include the cost of disposal in the price of new tires. Generators, transporters and processors are permitted to negotiate disposal fees among themselves.⁵⁶

By using a three-part state manifest, Texas tracks the management of waste tires from generation to end use. Each waste tire generator is required to complete and sign the first portion of the manifest, certifying the number of waste tires picked up by a transporter. The transporter also must sign the manifest and leave a copy with the generator. When the transporter deposits the waste tires with an end user, the final section of the manifest is completed, certifying the number of tires deposited at the facility.⁵⁷ A completed manifest must be returned to the waste tire generator within 60 days of the initial collection. If there are any discrepancies on the completed manifest, waste tire generators must notify the Texas Commission on Environmental Quality (TCEQ). The generator must also notify TCEQ if any transporter or waste tire facility fails to complete the manifest, alters the manifest, or does not return it within three months after the waste tires have been transported offsite. Originals of manifests, work orders, invoices, and any other records must be retained by all facilities for three years. Likewise, all waste tire generators, transporters and processors are

^z In Texas, a scrap or waste tire is a tire that no longer can be used for its original intended purpose.

required to submit the information contained in waste tire manifests to TCEQ in an annual report.⁵⁸

While the state does not provide grants to encourage or support waste tire businesses, multiple end use facilities are authorized to receive waste tires, including waste tire processors and energy recovery facilities, transportation facilities, land reclamation projects using tires, and tire storage sites. Waste tires must be slit, quartered, or shredded before they can be sent to a landfill. The state has approved whole or waste tires to be used as planters; padding for equipment deliveries; sidewalls and backstops for pistol ranges; paint ball courts and miniature golf courses; erosion control and bank stabilization; low height or gravity retaining structures; geotextile-reinforced tire walls; tire dams; gravel in septic tanks; and for roadway construction and repair.⁵⁹

Virginia

The 1989 General Assembly enacted a \$0.50 per tire fee on all tires sold at retail locations. The 2003 General Assembly increased the fee to \$1.00 per tire, beginning July 1, 2003, and running through June 30, 2011, with all extra revenue dedicated to illegal waste tire^{AA} stockpile cleanups and remediation. On July 1, 2011, the tire fee reverted to \$0.50 per new tire sold. To compensate for the administrative costs of fee collection, tire retailers are permitted to retain 5 percent of each fee collected. Funds collected, less those retained by tire retailers, are deposited into the Waste Tire Trust Fund. The Department of Environmental Quality (DEQ) was directed to develop an implementation plan for the transportation and management of all waste tires generated in the state.

The purpose of the Fund and plan was to transform the struggling waste tire management system into a viable, long-term enterprise capable of vastly improving the 1991 recycling level of 10 percent. The plan called for the development of convenient recycling opportunities and markets for the material in order to prevent the creation of new tire dumps. Now, almost 100 percent of newly generated waste tires in the state are put to a beneficial end use.

^{AA} Virginia defines a waste tire as a tire that has been discarded because it no longer is suitable for its original intended purpose because of wear, damage, or defect.

Waste tire transporters are not required to register with the state. Rather, Virginia utilizes a voluntary registration system. Like most states in the SLC, Virginia monitors the flow of waste tires using a tracking form. Registered waste tire transporters must develop and utilize a tracking form similar to DEQ's previously distributed Waste Tire Certification forms. This tracking form provides documentation to the generator that the tires were picked up by a reputable hauler registered with DEQ, and also provides the processor with documentation on the generation point for the waste tires (Virginia or non-Virginia site).

Owners and operators of solid waste management facilities that store waste tires are required to establish and maintain a contractual agreement for "prompt removal"⁶⁰ of the waste tires from the facility and may be required to obtain permission for storage from the local fire marshal. Additionally, rules governing waste tire management dictate specific operational standards that must be followed by indoor and outdoor waste tire collection sites. These standards include specifications governing the height, width and length of waste tire piles; width of clearance around each pile; fire control and prevention measures; and mosquito and rodent control. No more than 1,000 discarded tires may be stored at a landfill unless the landfill expressly is permitted to do so. Tires disposed of in a landfill must be split, cut, or shredded before disposal and should be dispersed in a landfill with other solid wastes. A written contingency plan must be prepared for a materials recovery facility that includes operating procedures to be employed during periods of non-processing. This plan must include contingency procedures to be employed in the event of an equipment breakdown and details on standby equipment, extension of operating hours, or diversion of solid waste to other facilities. The plan must include emergency loading, unloading, storage, transfer, or other disposal capabilities to be used when the facility downtime exceeds 24 hours.

Since 1994, DEQ has worked to strengthen markets for the state's waste tire material through its End User Reimbursement (EUR) Program. The Program provides rebates to companies that use the state's material in products or processes. The state provides partial reimbursement to such companies for the purchase of waste tires, tire chips, or other similarly derived products. In order to be eligible, companies must be end users of waste tire products. However, they are not required to be

located in the state in order to be eligible for partial reimbursement.⁶¹ Examples of end users of waste tire material in the state are power plants, concrete plants, landfill operations and road construction firms.

West Virginia

West Virginia's waste tire^{AB} regulations are written to ensure proper management of waste tires and used tires. This includes permit and record keeping requirements for facilities that generate, process, reuse or recycle tires. Instead of imposing a waste tire disposal fee on the purchase of all new tires, the state imposes a \$5 fee on all new automobile registrations. The A. James Manchin Fund, established by state code in 2000, provides funds for the remediation of illegal waste tire dumps. The Fund consists of proceeds from the sale of waste tires, fees collected by the Department of Motor Vehicles, any federal, state or private grants received for the remediation of illegal waste tire dumps, legislative appropriations and any other funding available specifically for the purpose of reducing waste tires in the state. At the end of each fiscal year, any unallocated monies remaining in the Fund are transferred to the State Road Fund.⁶²

Commercial solid waste facilities must accept whole waste tires from any person and are permitted to charge a "reasonable fee" for the acceptance of such tires.⁶³ Whole waste tires may be disposed of in commercial solid waste landfill facilities only if they are generated from the Division of Highways waste tire remediation projects and the Department of Environmental Protection (DEP) has determined that there is no other reasonable alternative available.⁶⁴ West Virginia allows waste tires to be monofilled^{AC} as a means of providing a long-term storage site for waste tires or tire derived material. This is a specified means of storage only until "such time that markets are further developed for reuse and recycling."

^{AB} In West Virginia, waste tire means any continuous solid or pneumatic rubber covering designed to encircle the wheel of a vehicle but which has been discarded, abandoned or no longer is suitable for its original, intended purpose nor suitable for recapping, or other beneficial use because of wear, damage, or defect. A tire no longer is considered to be suitable for its original intended purpose when it fails to meet the minimum requirements to pass a West Virginia motor vehicle safety inspection. Used tires located at a commercial recapping facility or tire dealer for the purpose of being reused or recapped are not waste tires.

^{AC} A waste tire monofill is a disposal site comprising only waste tires and ground cover.

Waste tire storage and processing facilities are required to conform to specifications governing the height, width and length of waste tire piles; width of clearance around each pile; fire control and prevention measures; and mosquito and rodent control. Furthermore, in West Virginia, water samples must be taken and reported to the DEP to ensure that the storage and/or disposal of waste tires do not impact water quality at nearby aquifers.⁶⁵ Such facilities must compile and submit quarterly reports detailing the date, quantity and origin of waste tires and tire derived material received at the facility; quantity/tonnage of waste tires and tire derived material stored at the facility; name, address, telephone number and certificated motor carrier identification numbers of the waste tire transporters who transport waste tires and tire derived material to and from the facility; any fires, vector or environmental problems, other conditions or changes in the facility's operational procedures; name, type and quantities of pesticides used at the facility; and groundwater monitoring reports.⁶⁶ The facility must maintain these records for a minimum of five years.

Waste tire transporters are required to keep records detailing the name, address and telephone number of the retail tire dealer(s) and number of whole waste tires transported from the retail tire dealer(s) business location(s) by the waste tire transporter. Additionally, records showing the name, address, and telephone number of the permitted site or facility where the whole waste tires were transported by the waste tire transporter are required. These records must be maintained for a minimum of three years.

Waste tire processing facilities, monofills, storage cells and commercial recycling facilities are required to maintain bonding and financial assurance. Bonding in the amount of \$6,000 per acre, with a maximum amount of \$10,000, is required for all such facilities. An additional financial assurance of \$2 per whole waste tire is required. This bond is released when all tires have been removed from the facility, monofill or storage cell.

Beneficial use of waste tires in the state includes utilization as alternative daily cover at solid waste landfills, TDF, and the utilization of waste tires as raw material in a process such as pyrolysis, cryogenics or high pressure water jetting to break down the waste tires into their respective constituents of crumb rubber, polyester or nylon

fiber, steel belts and other constituents to develop new and/or recyclable materials.

Conclusion

While the disposal of used vehicle tires has been an ongoing issue for decades throughout the United States, legislatures in the SLC region began addressing the health and environmental problems associated with this issue as early as 1989.

Of the 15 states in the SLC region, all have implemented laws, rules and regulations for the management and disposal of used tires. Several common themes emerge from a review of the legislation, suggesting a cohesive approach to the issue and the opportunity for other states to implement similar "best practices" strategies already in place.

Of the 15 states in the SLC, 14 have implemented a manifest system for the tracking of waste tires from the point of generation to the point of end use. Such systems create a framework of accountability and assist states in identifying waste tire collectors, transporters and processors who are not in compliance with state laws, rules and regulations. When feasible, a manifest system that requires the certification of the number of tires transported, point of generation and end use, as well as contact information for all three points in the chain, can be very beneficial. The average standard in Southern states for retaining such records is three years. Manifests are required to be reviewed regularly to ensure the responsible management of waste tires in each state. In addition to implementing a manifest system for the tracking of waste tires, the example set by Louisiana requiring the tracking of unmanifested tires, thereby allowing the identification of illegal waste tire collection sites and stockpiles, could be included as a provision in future laws.

Most states in the SLC have approved the operation of mobile waste tire processors. This practice is utilized in Alabama, Arkansas, Louisiana, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee and Texas. Mobile processors have proven effective in quickly diminishing illegal waste tire piles and can result in cost savings for states undertaking large remediation projects. The voluntary forfeiture of hazardous waste tire collections can be incentivized by offering amnesty days, such as Arkansas, Florida, Kentucky, Missouri, North Carolina, South

Carolina, Tennessee, Virginia and West Virginia have done. On amnesty days, waste tire accumulators deliver waste tires to designated locations throughout the state without risking penalties. Mobile processors could be utilized on location to quickly process forfeited tires, making them easier to transport to an approved end use location. States that currently authorize mobile processors can enhance their waste tire management process and grow the waste tire processing market by contracting with mobile processors to provide services throughout the state on specific and consistent dates.

All but one SLC state imposes some type of fee or tax for the funding of waste tire management programs. Placing a cap on fees charged by retailers is a common approach. This strategy prevents retailers from charging higher fees as a means of discouraging customers from appropriately forfeiting their waste tires. Additionally, to safeguard states from having to absorb the financial burden of remediating a waste tire disposal site, requiring waste tire collection and processing facilities to provide

cost estimates for closure, backed by financial assurance, is a practical fiscal approach. Many SLC states, such as Florida, Kentucky, Louisiana, South Carolina and West Virginia, already require one or both of these measures. Plans and cost estimates for closures should be renewed annually and could be required as a component of the facility's permit renewal. Such requirements can greatly aid states in recovering costs associated with the remediation of illegal stockpiles or damage caused by waste tire fires.

While the practice is not commonplace, economic downturns often impact designated or restricted funds. During and after the Great Recession, some states tapped into designated trust funds to bridge shortfalls in the general fund. While this practice continues, some states are taking steps to ensure that money in designated trust funds are used for their intended purpose. For example, nearly half of all states in the nation have constitutional lock-boxes to protect transportation funds. Similar measures could prevent waste tire trust funds from being allocated for other purposes.

Glossary

- » **Bead diameter** - The bead component of the tire is a non-extensible composite loop that anchors the body plies and locks the tire onto the wheel assembly so that it will not slip or rock the rim. The precision of the bead circumference is critical. If too small, tire mounting can be a problem, but if too loose, the tire can come off the rim too easily under loading and cornering conditions.
- » **Clean closure** - Clean closure is the act of closing a facility whereby all waste tires and waste tire material are removed, including any resulting on- or off-site contamination.
- » **Closing costs** - Closing costs are all costs associated with the closure, sometimes referred to as clean closure, of a waste tire processing or collecting facility. These costs include the removal of all tires from the facility as well as the remediation of any contamination caused by waste tire accumulation.
- » **Compacted and baled tires** - Compacted and baled tires are tires that have been mechanically compressed and tied with interlocking wrappings.
- » **Financial assurance** - Financial assurance is a mechanism designed to demonstrate that funds will be available to ensure compliance with statutes/regulations and permit requirements of scrap tire transporters, processors or collectors. While insurance is intended to cover events that may occur, assurance covers events that are inevitable.
- » **Privilege tax** - A privilege tax is a tax levied in exchange for a privilege or license granted to the taxpayer. The fee for registering a motor vehicle is one example of a privilege tax.
- » **Remediation** - In the case of illegal waste tire dumps, remediation can include the removal and processing of the waste tires, the elimination of environmental contamination and vector control.
- » **Unmanifested waste tire** - Unmanifested waste tires are waste tires that lack the manifest used to identify the quantity, composition, origin, routing and destination of the tires and/or waste tire material during transportation from the point of generation to the authorized destination.
- » **Waste tire amnesty** - Waste tire amnesties are events that allow illegal waste tire accumulators to deposit their tires without penalty.
- » **Waste tire monofill** - A waste tire monofill is a disposal site comprising only waste tires and ground cover.

Finally, it is important to note that the SLC states have emerged as a powerhouse in automotive manufacturing in the past three decades, a development that continues to generate positive benefits for the entire region. As a result, a number of automotive parts suppliers, including tire manufacturers, have established facilities in the region to operate in proximity to automakers that have thriving manufacturing operations. States could encour-

age the application of waste tire products in automotive parts manufacturing by creating or designating grant opportunities to spur innovation. The creation of online forums for processed recyclable items, including processed waste tires, is another way states can promote innovation in waste tire end use products and grow the market for waste tire products, making them more competitive in both state and national markets.

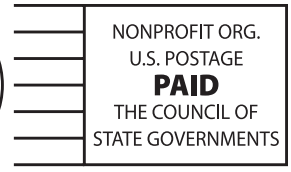
Table 1	Waste Tire Definitions
Alabama	Any pneumatic tire no longer suitable or useable for its original purpose and includes but is not limited to, all tires with a manufacturing defect, except those that are in the process of being returned to the manufacturer for a refund.
Arkansas	A whole tire that no longer is repairable or retreadable or no longer suitable for its original intended purpose because of wear, damage, or defect. Waste tire includes, but is not limited to, used tires and processed tires.
Florida	A tire that has been removed from a motor vehicle and has not been retreaded or regrooved. The term includes, but is not limited to, used tires and processed tires. The term does not include solid rubber tires and tires that are inseparable from the rim.
Georgia	A tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.
Kentucky	When a person purchases a new motor vehicle tire in Kentucky to replace another tire, the tire that is replaced becomes a waste tire subject to the waste tire program.
Louisiana	A whole tire that no longer is suitable for its original purpose because of wear, damage, or defect.
Mississippi	A whole tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.
Missouri	A whole tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.
North Carolina	A tire that no longer is suitable for its original, intended purpose because of wear, damage, or defect.
Oklahoma	An unprocessed whole tire or tire part that no longer can be used for its original intended purpose.
South Carolina	A tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.
Tennessee	A tire that no longer is suitable for its original intended purpose because of wear, damage, or defect.
Texas	A tire that no longer can be used for its original intended purpose.
Virginia	A tire that has been discarded because it no longer is suitable for its original intended purpose because of wear, damage, or defect.
West Virginia	Any continuous solid or pneumatic rubber covering designed to encircle the wheel of a vehicle but which has been discarded, abandoned or no longer is suitable for its original, intended purpose nor suitable for recapping, or other beneficial use because of wear, damage, or defect. A tire no longer is considered to be suitable for its original intended purpose when it fails to meet the minimum requirements to pass a West Virginia motor vehicle safety inspection. Used tires located at a commercial recapping facility or tire dealer for the purpose of being reused or recapped are not waste tires.

Table 2		State Waste Tire Summary				
State	Fee	Financial Assurance for Processors	Financial Assurance for Haulers	Monofills Allowed	Whole Tires Allowed in Landfills	Mobile Processing
Alabama	\$1 per tire	Yes	Yes	Yes	Yes	Yes
Arkansas	\$2 per car tire, \$5 per truck tire	Yes	No	Yes*	No	Yes
Florida	\$1 per tire	Yes	No	No	No	Yes
Georgia	\$1 per tire	Yes	Yes	No	No	Yes
Kentucky	\$1 per tire	Yes	Yes	Yes	No	No
Louisiana	\$2 per passenger tire, \$5 per medium truck tire, \$10 per off-road tire, \$1.25 per recapped or retreaded tire	Yes	Yes	No	No	Yes
Mississippi	\$1 per tire with a rim diameter <24 inches, \$2 per tire with a rim diameter >24 inches	Yes	No	Yes	No	Yes
Missouri	\$.50 per tire	Yes	No	No	No	Yes
North Carolina	2 % privilege tax on each tire with a bead diameter <20 inches, 1% privilege tax on each tire with a bead diameter ≥ 20 inches	Yes	No	Yes	No	No
Oklahoma	\$2.50 per tire with a rim diameter ≤ 19.5 inches, \$3.50 per tire with a rim diameter > 19.5 inches, \$1 per motorcycle tire	Yes	No	No	No	Yes
South Carolina	\$2 per tire	Yes	Yes	No	No	Yes
Tennessee	\$1.35 per tire	Yes	No	Yes	No	Yes
Texas	No fee	No	No	No	No	Yes
Virginia	\$.50 per tire	No	No	No	No	No
West Virginia	\$5 fee on all new automobile registrations	No	No	Yes	No	No

* Tires may be disposed of in an existing monofill only if they have been split, shredded, cut or if whole tires have been baled. This is an acceptable end use only if there is no feasible recycling alternative and the site has been prepared in a manner that will allow tires to be recovered at a later date. New monofills are permitted only if there is no feasible recycling alternative available.

Endnotes

- 1 “SC Tire Dump Still Not Cleaned up.” *The State*. <http://www.thestate.com/news/local/article13920128.html> (accessed July 22, 2015).
- 2 *Waste Tire Program Annual Report to the General Assembly* (Energy and Environment Cabinet, Department for Environmental Protection, Division of Waste Management. 2014). <http://waste.ky.gov/Waste%20Tire%20Program%20Report/Waste%20Tire%20Report%202014%201-15-15-FINAL.pdf>.
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Southern Office of
The Council of State Governments
 P.O. Box 98129
 Atlanta, Georgia 30359
www.slcatlanta.org

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REGIONAL VIEW NATIONAL REACH

This report was prepared by Policy Analyst Anne Roberts Brody for the Energy & Environment Committee of the Southern Legislative Conference (SLC) of The Council of State Governments (CSG) under the chairmanship of Representative William E. “Bill” Sandifer of South Carolina. This report reflects the body of policy research made available to appointed and elected officials by the Southern Office.

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