



RICK SNYDER  
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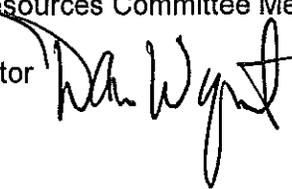
STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



DAN WYANT  
DIRECTOR

VIA E-MAIL

TO: Senate Natural Resources, Environment, and Great Lakes Committee Members  
House Natural Resources Committee Members

FROM: Dan Wyant, Director 

DATE: April 18, 2013

SUBJECT: Report on the Effectiveness of Part 169 in Encouraging the Reuse and Safe Storage of Scrap Tires (2012 Triennial Report)

In accordance with Section 16911(2) of Part 169, Scrap Tires, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, attached is the Department of Environmental Quality's (DEQ) triennial report on the Effectiveness of Part 169 in Encouraging the Reuse and Safe Storage of Scrap Tires for fiscal years 2010 to 2012.

If you need further information, please contact Elizabeth M. Browne, Chief, Office of Waste Management and Radiological Protection, at 517-373-9523; or you may contact me at 517-373-7917.

Attachment

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## 2012 TRIENNIAL REPORT

This Triennial Report is prepared for the standing committees on natural resources and the environment in the Senate and the House of Representatives, as required by Part 169, Scrap Tires, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

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April 18, 2013

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**Michigan Department of Environmental Quality  
Report to the Legislature on the Effectiveness of Part 169 in Encouraging the Reuse  
and Safe Storage of Scrap Tires**

**April 18, 2013**

**EXECUTIVE SUMMARY**

Section 16911(2) of Part 169, Scrap Tires, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), requires:

Not later than 3 years after the effective date of the 2006 amendatory act that added this section [December 29, 2006], and every third year thereafter, the department shall prepare a report on the effectiveness of this part in encouraging the reuse of scrap tires and ensuring the safe storage of scrap tires. The report shall include recommendations for such changes to this part, including any further description of the use of money described in section 16908(2)(c) and (3), as the department finds necessary and appropriate. The department shall submit the report to the standing committees of the senate and house of representatives with primary responsibility for issues pertaining to natural resources and the environment.

This report was prepared by the Michigan Department of Environmental Quality (MDEQ), Office of Waste Management and Radiological Protection (OWMRP), that oversees the Scrap Tire Regulatory Program (Program), including grant, registration, compliance, and enforcement activities.

Overall, the Program has been very successful. Throughout the state, many large stockpiles of scrap tires have been eliminated, compliance rates have continued to increase, and markets for scrap tires have increased. The reasons for the Program's success are: (1) continuing an appropriately funded Scrap Tire Cleanup Grant Program to address abandoned scrap tires and those collected prior to 1991 when Part 169 was enacted; and (2) consistent enforcement of Part 169, which helps to ensure a level playing field for those voluntarily meeting Part 169 requirements. It should be noted that although markets for scrap tire material have continued to increase on their own, with minimal governmental subsidies, the ongoing need for state funding for cleanup grants, compliance, and enforcement is clear.

As part of an ongoing effort to continuously improve the Program, the MDEQ has sought input from key stakeholders, which led to the creation of an ongoing Scrap Tire Advisory Committee (STAC) appointed by the MDEQ Director. The STAC continues to meet periodically and serves as a forum for both the MDEQ and stakeholders to identify and address challenges and opportunities in the Program as they arise.

The STAC has been working on a proposal for some potential legislative changes to Part 169. These changes would clarify several definitions; facilitate community cleanup events; help curb illegal activities; maintain a level playing field; and direct additional grant monies to market development activities as the remaining stockpiled tires are cleaned up.

## **INTRODUCTION AND BACKGROUND**

Unpublished data collected by the Rubber Manufacturers Association (RMA) suggests that 304 million scrap tires were generated in 2011. Michigan contributes approximately ten million scrap tires annually to that waste stream.<sup>1</sup> The global economic downturn over the past few years has resulted in a decrease in the total number of miles traveled and a resultant decrease in the new replacement tire market. Both of these factors suggest a decrease in the rate of scrap tire generation.<sup>2</sup>

Unregulated management of scrap tires in Michigan led to an estimated 30 million tires located in stockpiles by 1991, and at that time, more than 7.5 million additional scrap tires were being generated annually. Tire retailers sought the lowest price for disposal, and lacking regulation, tires were either being placed in piles as a method of disposal or in anticipation of the tires having a future value. The operating costs of these sites were often greater than the amount being charged to “dispose” of the scrap tires, resulting in no funds for proper disposal or recycling. This resulted in greater than 75 percent of scrap tires either being dumped and/or stored in unmanaged stockpiles.

The demand for used tires has also led people into a retailer or garage to sort through the scrap tires in order to pick out those with sufficient tread life to be sold in the used tire market. The problem with these “cherry-pickers” is that they are often not registered as scrap tire haulers and are also not manifesting the tires. Properly manifested scrap tires indicate who took the tires and where they were disposed or resold. Compliant haulers rely on the resale of some of the scrap tires as “used tires” as a cash source. The MDEQ has to rely on industry members informing staff if someone is moving tires and is not a registered hauler or not meeting the manifest requirements. In an effort to ensure that all retailers were aware of the requirements under Part 169, a letter was sent to tire retailers in July 2012 reminding them of their responsibilities.

### ***MICHIGAN’S RESPONSE TO THE SCRAP TIRE PROBLEM***

Michigan’s policy response to the scrap tire problem in the state remains two-pronged: continue to encourage market development and require proper management of tires. This approach was embodied in the Scrap Tire Regulatory Act, 1991 PA 133, which was recodified in 1994 as Part 169. The purpose of Part 169 is to help reduce illegal scrap tire accumulations and the public health and environmental concerns associated with these piles. Under this approach, the OWMRP’s goals are to:

- Create regulatory incentives to recycle tires and financial disincentives to improperly store or dump tires;
- Assist in the development of viable end uses and markets for scrap tires;
- Require acceptable management of scrap tires through registration and manifesting requirements and require proper storage;

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<sup>1</sup> This annual generation estimate is the best estimate of the tire industry and has not been changed in almost twenty years. It is based on the premise that each person in the population generates one scrap tire per year.

<sup>2</sup> Scrap Tire Market in the United States, 9<sup>th</sup> Biennial Report, May 2009, RMA.

- Conduct site, hauler, and retailer inspections to assess management of scrap tires;
- Conduct appropriate enforcement with criminal and civil culpability for violations; and
- Allow private enterprise to establish costs.

Part 169 creates a Program consisting of financial incentives (Scrap Tire Cleanup and Market Development Grants), registration of scrap tire haulers and collection sites, financial assurance, and compliance (inspection and enforcement) activities.

Part 169 provides for up to 11 full-time equivalent positions (FTEs) working in the Program. The MDEQ currently spreads these 11 FTEs among staff in the District Offices carrying out inspection, compliance, and registration activities; staff in the Lansing central office issuing registrations, overseeing scrap tire grants, providing overall Program coordination, and coordinating enforcement actions; and staff in the Michigan Department of Natural Resources (MDNR), Law Enforcement Division, Environmental Investigations Section, who conduct criminal investigations.

The Program is funded through a fee established in the Michigan Vehicle Code, 1949 PA 300, as amended, of \$1.50 for each motor vehicle title transfer. Continuation of funding supports ongoing grants to develop markets for scrap tires and helps to ensure the proper disposal of the scrap tires generated annually in Michigan.

### ***CHANGING MARKETS AND APPROACHES***

Over the past several years, the industry has noted a number of issues that reflect changes in the markets and regulatory landscape for scrap tires throughout the United States. Many of these have to do with changing views on waste materials, viewing what were once considered wastes as valuable resources, and the nation's efforts to become self-sufficient in the energy arena. This changing view is noted in both Michigan's 2007 Solid Waste Policy and the U.S. Environmental Protection Agency (U.S. EPA) and OWMRP's current shift in focus to sustainable materials management (SMM).

In this year's unpublished scrap tire update, the RMA reports that there have been several major United States market changes between 2008 and 2012. Economic conditions in 2008 to 2010 had major impacts on the markets. The industry has become more dominated by mega-companies. The top eight collector/processing facilities control 72 percent of the tires generated annually. The major markets for scrap tires are fuel, ground rubber, exports, and tire-derived aggregate. The RMA data from 2011 suggests that 89 percent of scrap tires go to an end use market, which is the same as in 2009. Approximately ten percent of scrap tires continue to be landfilled nationwide.

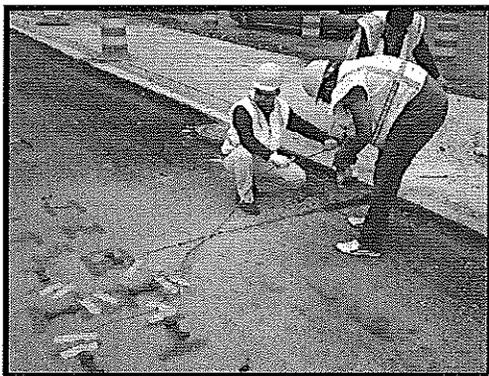
### ***SMM and Beneficial Use***

There continues to be an increased interest in finding new, beneficial uses for many materials that were once just disposed of in landfills. It should be noted that whole motor vehicle tires have been prohibited from disposal in Michigan landfills since March 2004. While portions of tires (e.g., quartered tires, tire shreds) can still be disposed of in a landfill, the challenge continues to promote other management options. Several meetings of the Michigan

Transportation Recycling Partnership, which consists of representatives from the Michigan Department of Transportation (MDOT), MDEQ, and Michigan Technological University, have taken place to discuss the beneficial reuse of seven common materials, one of which is scrap tires.

The focus on scrap tire use in this context would likely be on tire-derived aggregate for use as lightweight fill or weed control. The tire industry has expressed a desire to see increased use of rubber modified asphalt in Michigan. Rubber modified asphalt has been used in a number of projects in the state, but testing has yet to be completed. These projects used over 63,000 passenger tire equivalents (PTEs). Testing for these projects is ongoing and is expected to occur for three to five years after project completion.

The MDEQ also cosponsored a Crumb Rubber Modified Asphalt 101 Workshop (Workshop) in February 2012 with Michigan State University, MDOT, the RMA, the Rubber Pavements Association, the Asphalt Pavement Association of Michigan, Michigan Technological University, Seneca Companies, and several Michigan scrap tire processors. The purpose of the Workshop was to provide an introduction to those who might wish to implement different types of crumb rubber modified asphalt mixtures. There were approximately 50 attendees representing state and local government, consulting firms, academia, and the paving and scrap tire industries.



Installation of Testing Sensors Under Rubberized Asphalt



Installation of Rubberized Asphalt

### ***Tire-Derived Fuel***

Burning tire-derived fuel (TDF) at sustainable levels is important to maintaining scrap tire consumption in Michigan. There is a need for Michigan to have market and processing capacity for the scrap tires generated within the state. Michigan currently has a few remaining stockpiles of scrap tires, therefore, adequate scrap tire processing capacity and markets in Michigan remains a primary objective of the Program.

### ***U.S. EPA Notice on Revisions to the Definition of Solid Waste and Implications for TDF***

The U.S. EPA codified determinations that certain nonhazardous secondary materials are categorically not a solid waste when burned as a fuel in combustion units. This determination includes scrap tires that are not discarded and are managed under the oversight of

established tire collection programs, including tires removed from vehicles and off-specification tires.

### ***Alternative Treatment Technologies for Energy Production***

Proposals for alternative technologies related to energy production are on the rise due to the state and federal emphasis on energy independence for the United States. These alternative technologies include pyrolysis (the use of heat in the absence of oxygen to decompose a material), gasification, microwave, plasma arc, and other alternative technologies. These processes do work in the laboratory or on a small scale but to date have not been proven to be economically viable on a commercial scale anywhere in the United States.

### ***Use of Scrap Tires and Tire Sidewall Rings to Secure Animal Feed***

Covering silage in bunker storage is a common agricultural management practice. The cover, secured by tires or tire sidewalls, helps preserve forage quality and minimizes silage leachate and runoff. The tires or tire sidewalls used for this purpose also need proper management to reduce risks from pests, fires, and pollution. If farmers use whole tires to secure stored feed, they are limited to 3,000 tires. There is no limit on the number of tire sidewalls for feed storage. The OWMRP worked with the Michigan Farm Bureau, the Michigan Department of Agriculture and Rural Development, and the STAC to clarify the use of scrap tires and sidewall rings for this purpose through development of a question and answer document.

### ***Ontario Used Tire Program***

Ontario is the last province in Canada to create a Tire Stewardship Program. The intent is to keep tires and related material in Ontario via expanded producer responsibility. This includes legislation to shift the responsibility and the cost from the government to the producer. It does not allow for the fees to be used for disposal of tires in a landfill until all other options have been exhausted. Fees are collected by the Ontario Tire Stewardship, an oversight group. The Stewardship pays for processing, resulting in incentives or subsidies, that may impact cross-border markets.

Of particular concern to the scrap tire industry in Michigan is the impact the Ontario Tire Stewardship Program is having on the surrounding states. There have been reports that crumb rubber produced under the Ontario Tire Stewardship Program is coming into the market more cheaply than it can be produced in Michigan. There have been undocumented reports of Michigan processors losing contracts and ceasing production of products, such as turf materials, due to these issues. Additional follow up by the STAC with Ontario Tire Stewardship representatives on this situation is anticipated.

### ***MICHIGAN'S REGULATORY LANDSCAPE***

Each year, the OWMRP discovers additional regulated collection sites and develops more accurate figures on scrap tire stockpile inventories. Most of the newly identified sites are not active and often not in a visible location. Newly identified sites are becoming less frequent, and the amount of scrap tires stored at these sites is generally smaller than sites discovered historically.

Michigan's current scrap tire industry consists of the following:

- 257 registered scrap tire haulers;
- 44 registered scrap tire collection sites;
- 55 collection sites that are not in compliance;
- 11 registered scrap tire processors; and
- 12 certified end-users.

The MDEQ annually conducts over 300 inspections of these facilities, including annual inspections of each collection site that applies for registration. Approximately 2.1 million scrap tires are stored at outdoor collection sites today. For additional information on the scrap tire industry, go to [www.michigan.gov/deq](http://www.michigan.gov/deq) and click on "Waste" and then on "Scrap Tires."

On average, the MDEQ holds approximately 40 financial assurance instruments for scrap tire collection sites. Scrap tire collection sites are required to bond outdoor tire storage areas at \$25,000 per quarter acre or a fraction thereof and \$2 per square foot of tire storage in a building. Collection sites with fewer than 2,500 tires need to maintain a \$2,500 bond. Qualifying commodity storage areas up to a total of one acre are not required to be bonded, and collection sites that remain in compliance with the applicable requirements of Part 169 for at least one year are not required to be bonded.

The MDEQ can address noncompliance with Part 169 requirements through administrative, civil, and criminal enforcement activities. Criminal enforcement is used when a person or company knowingly refuses to comply with the law or intentionally commits a violation. Criminal sanctions include probation, community service, jail, fines, court costs, and restitution for damages. These sanctions do not directly require the removal of illegal tires. Therefore, either administrative or civil enforcement tools are used to require the cleanup of illegal tire piles.

Scrap tire stockpile abatement is a technical, economic, and political challenge. Obtaining and maintaining a landowner's cooperation facilitates cleanup operations. If the property owner will not cooperate, a court order must be obtained to enter the property and remove the scrap tires. This takes MDEQ and Michigan Department of Attorney General resources. Scrap tire stockpiles do not have a positive net value, as abating stockpiles costs more than can be derived from product revenue. Many of these tire accumulations are not in compliance with Part 169, are without financial assurance, and are abandoned by the operator, becoming public liabilities, with taxpayers ultimately ending up taking the financial responsibility for dealing with these piles.

## **SCRAP TIRE ADVISORY COMMITTEE (STAC)**

The STAC grew out of the 2005 Scrap Tire Work Group, which was an *ad hoc* group of stakeholders formed by the MDEQ. The Scrap Tire Work Group consisted of retailers, rereaders, scrap tire processors, scrap tire haulers, scrap tire collection site owners, and end-users, as well as representatives from the Michigan Association of Counties, the Michigan Townships Association, the Michigan Municipal League, and staff of the OWMRP. The STAC was formed to foster continued interaction between the OWMRP and stakeholders. The STAC provides an open forum for discussion of issues and trends in the scrap tire industry and to facilitate improvements to the Program administered under Part 169. Part 169 was amended in 2006 to require the MDEQ Director to appoint members to the STAC, and the group became more formally recognized. The first meeting of the STAC was held on May 11, 2006. Meetings are generally held on a quarterly or as-needed basis.

## **SCRAP TIRE REGULATORY PROGRAM RESULTS**

The following activities and factors have contributed to the success of the Program:

### **SCRAP TIRE CLEANUP GRANTS**

Much of the reduction in illegal stockpiles is due to Scrap Tire Cleanup Grants. Since the Legislature first appropriated funding in 1993, more than \$28.5 million in public funds have cleaned up approximately 32.4 million PTEs, restoring the environmental quality and economic value of more than 1,000 sites across the state (see Figure 2, page 9). The average cost of removal of tires under the grant program has been approximately \$0.88 per PTE. Approximately \$3.5 million is allocated for cleanup and market development grants in fiscal year (FY) 2013. Based on the eligible applications received in 2012, it is estimated that at least another 300,000 PTEs will be removed during the FY 2013 grant cycle.

When public funds remove illegal tires to address a public health and environmental risk, a person responsible for the illegally accumulated tires should not profit from the resulting increase in market value of the property. Therefore, a lien against the property is imposed as a condition of a grant to clean up post-1991 tires. The MDEQ has placed liens on 25 such properties. The owners of three properties paid back the grant funds, and the liens were released. The funds that were repaid will be available to complete additional cleanups.



Scrap Tire Pile Site Before and After Scrap Tire Grant Awarded

While the cleanup grants have been very successful in addressing large stockpiles of scrap tires, some issues remain that need to be addressed in order to get to the remaining smaller accumulations of tires. These include efforts by the MDEQ to:

- Work with the U.S. Department of Agriculture's Natural Resources Conservation Service and farmers on cleanups of farm property;
- Work with urban areas - both on cleanup and enforcement to prevent further dumping;
- Work with local health departments to address cleanup of small accumulations, possibly pooling those located in an area; and
- Work with local communities on cleanup days.

Additionally, the MDEQ should continue to:

- Work with our sister agencies to address state land dumping issues;
- Work on sites where property is bought/inherited that contain tires; and
- Work on cleaning up old salvage yards.

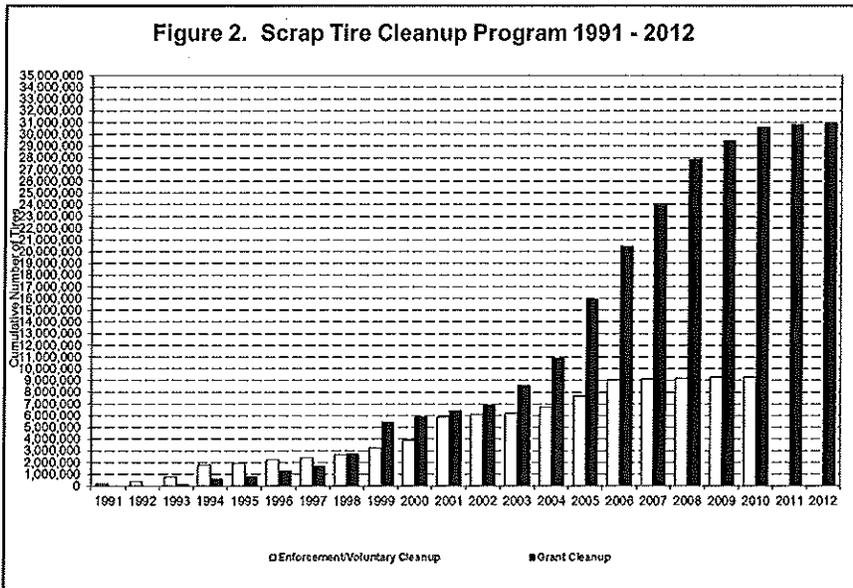


One of the last remaining large scrap tire stockpiles in Michigan

## ***REGISTRATION, COMPLIANCE, AND ENFORCEMENT***

The registration, compliance, and enforcement activities conducted under Part 169 have also been effective in addressing illegally stored tires. As a direct result of these activities, approximately 9.4 million illegal tires have been removed from uncontrolled stockpiles. This is coupled with increased compliance with management requirements at operating collection sites and environmental or public health improvements at sites throughout the state.

In 2009 the MDEQ estimated approximately 664,000 PTEs were being illegally stored in Michigan; 388,000 of these were pre-1991 and the remaining 276,000 were post-1991 scrap tires. The current estimate is approximately 450,000 PTEs posing a threat to public health, safety, welfare, or the environment.



Scrap Tire Cleanup Grant Program from 1991-2012

It should be noted that Enforcement/Voluntary Cleanup data is not reported after 2010

**MARKET DEVELOPMENT**

The tire processing industry and product markets have a finite capacity to use the approximate 10 million tires per year that Michigan generates in addition to historically stockpiled tires. Done properly, stockpile cleanups can help to develop new markets or add supply volumes to existing markets.

As a result of the Scrap Tire Cleanup Grants and MDEQ efforts to ensure compliance with Part 169 storage requirements, a large and continuing supply of scrap tires has become available for use. While a lack of mandated reporting makes data collection for market uses problematic, this supply has increased Michigan scrap tire market capacity from less than 3 million to over 14.6 million PTEs per year, giving Michigan capacity sufficient to handle newly generated scrap tires and the cleanup of stockpiled scrap tires.

The primary uses of scrap tires in Michigan include TDF used in the generation of electricity; landfill use (daily cover, liner protection, and gas collection); sidewall rings; the reuse and retreading market for truck tire casings; and mulch, playground material, crumb, and smaller chips. Based on the OWMRP’s estimate of the current usage and capacity of existing and potential scrap tire material end-users, approximately 13.6 million PTEs per year are burned as TDF permitted under Part 55, Air Pollution Control, of the NREPA, and over 544,000 scrap tires are retreaded or reused each year. Chips have been used in septic drain fields (6,600 PTEs per year), and other products (approximately 11.6 million PTEs per year for these uses). Table 1, page 10, shows scrap tire usage by market sector for 2010 and 2011. Rubberized asphalt for parking lots and roads continues to be only a minimal use of scrap tires. Over 2.1 million PTEs generated in Michigan go to out-of-state markets. The largest market increases were in TDF use, retreads/reuse, and other products, which include crumb rubber, TDF, drain field material, and rubber rock sold as commodities.

The number of PTEs accounted for in Table 1 far surpasses the estimate of ten million PTEs produced annually in the state of Michigan. This is due to a number of factors, including the lack of mandated reporting and inaccurate record keeping. Some TDF and scrap tires are also being imported from surrounding states and processed by Michigan facilities. TDF

usage continues to grow with approximately 25,559 additional tons burned in 2011. The category listed as "Other," which includes commodities such as crumb rubber, drain field material, and rubber rock, increased by 69,087 tons. The creation of sidewall rings decreased by a two-thirds margin; this is due to a combination of a dwindling market due to the economy and an increase in demand for TDF.

Many of the reported numbers of tires used have increased while the actual availability of scrap tires has decreased for a variety of reasons. Per RMA's unpublished 2012 market data, the recession hurt all scrap tire markets. Tire-derived aggregate use was up, but these markets are expected to remain static.

More stable markets have inhibited the reemergence of stockpiles once existing ones have been abated. Annually generated tires are not likely to replace abatement tires in low-value added markets such as landfill alternate daily cover. TDF users maintained the same level of TDF use after the flow of abatement tires ended, likely due to competitive pricing versus other fuel sources. The probability is that annually generated tires will have long-term markets.

Michigan has achieved market expansion with only limited direct government subsidies. Wisconsin, which initially encouraged markets through significant governmental subsidies, experienced a substantial decline in markets and an increase in illegal accumulations when the subsidies there ended. History has taught us that using state scrap tire funds to subsidize scrap tire processing has yielded less than desirable results.

In FY 2012, twelve end-users certified to the MDEQ that they used at least 75 percent of the scrap tire material delivered to their site. Eight are TDF users, and two use tire chips or tarps held down with tires for landfill daily cover. The remaining two use tires for retreads. See Attachment 1, Current Usage and Capacity of Existing and Potential Scrap Tire End-Users, for a breakdown of use by individual end-user for 2011.

<b>Table 1: Use Comparison</b>				
	<b>2011</b>		<b>2010</b>	
<b>Totals</b>	<b>Tons</b>	<b>PTE</b>	<b>Tons</b>	<b>PTE</b>
<b>End Uses</b>				
Landfill Usage	9,219	921,931	413	41,265
TDF	136,893	13,689,260	111,334	11,133,398
<b>Total</b>	<b>146,112</b>	<b>14,611,191</b>	<b>111,747</b>	<b>11,174,663</b>
<b>Diversion</b>				
Reuse/Retread	5,445	544,510	3,578	357,776
Out of State	21,336	2,133,579	28,379	2,837,897
<b>Total</b>	<b>26,781</b>	<b>2,678,089</b>	<b>31,957</b>	<b>3,195,673</b>
<b>Products</b>				
Septic	66	6,600	3,300	330,000
Sidewall Rings	3,458	345,800	10,545	1,054,502
Other	116,117	11,611,706	47,030	4,702,993
<b>Total</b>	<b>119,641</b>	<b>11,964,106</b>	<b>60,875</b>	<b>6,087,495</b>

## **SCRAP TIRE MARKET DEVELOPMENT GRANTS**

The Scrap Tire Market Development Grant Program is designed to promote proper use of scrap tire material in Michigan. Established in FY 2004, the program was not initially successful. Only one grant was issued under the first iteration and was completed in August 2006. Only two other incomplete applications were received. This lack of interest was due in part to the statutory requirement that grant-funded activities had to use tires cleaned up from stockpiles. These tires may not be suitable for all uses because of the condition of tires from long term, outdoor storage. In addition, Part 169 only allowed funding for 50 percent of the purchase price of the scrap tires to be reimbursed.

Changes to the Scrap Tire Market Development Grant Program were incorporated in the December 2006 amendments to Part 169 that now authorize the MDEQ to issue reimbursement grants for the following:

- Not more than \$500,000 each year to reimburse the purchasing scrap tires to support the development of increased markets for scrap tires.
  - Only the cost of purchasing scrap tires from Michigan scrap tire processors or other generators of scrap tires in Michigan is eligible.
  - Cost reimbursement grants are available for 50 percent of the cost of purchasing scrap tires. Reimbursement cannot exceed \$62.50 per ton.
- Cost reimbursement grants are available for up to 50 percent of the cost of purchasing equipment, or for research and development, to provide for a new or increased use for scrap tires.

Evaluation criteria have been developed and are set forth in the application package. All eligible applications are independently evaluated based on these criteria. Program personnel develop a written evaluation and an initial recommendation relative to the applications received. The final prioritized list is approved by the OWMRP Chief and presented to the MDEQ Director, who then makes final funding recommendations. Grants that are over \$250,000 must be reviewed by the State Administrative Board. If eligible, unsuccessful applicants may reapply in future grant cycles, subject to legislative appropriation of funds.

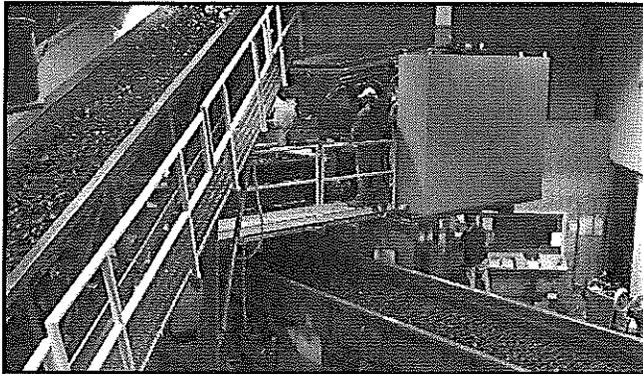
Priority is given to:

- Capital expenditures for equipment.
- Projects that demonstrate the technology is transferable and produces a broad benefit.
- Projects that utilize scrap tires rather than a commodity.
- Projects that demonstrate long-term sustainability.
- Applicants who are part of an established business.

- Applicants who are expanding a current product line.
- Financial capability and financial viability of the project.
- The value of the end use of the scrap tires.

Since the improved Scrap Tire Market Development Grant went into effect, grants totaling over \$2.5 million were awarded to county road commissions (Cass County, Ingham County, Saginaw County, Muskegon County, and St. Joseph County), the city of Clio, and Michigan State University and covered over 28 miles of roads. These projects used over 63,000 PTEs. Testing for these projects is ongoing and is expected to occur for three to five years after project completion.

Other projects funded under the Market Development Grant Program include: equipment for an expanded crumb line at an existing tire processor; equipment, research, development, and scrap tires to produce a new rubberized concrete product planned for use in trails, parking lots, and landscaping applications; equipment to produce flip flops from tire treads; and equipment to install an automated tire delivery and quality assurance system for a fractional distillation system that recovers energy from whole tires.



Tire processing line



Mulch made from scrap tires

### ***SCRAP TIRE END-USER GRANTS***

The Scrap Tire End-User Grant Program was started in FY 2004. Three to five scrap tire end-user grant applications were received each year, and approximately three grants were awarded each year. The scrap tire end-user grants resulted in only a slight increase in the number of tires used. Because the grant did little to increase the numbers of tires used, it was eliminated under the 2006 amendments to Part 169.

### ***PROCESSING CAPACITY***

Michigan has the capacity to process the scrap tires generated annually in the state. Each processor reports the number of tires processed to the MDEQ on their annual registration application. The MDEQ is confident that there is no actual downward trend in the ability of the state to process the tires it annually generates. The number of processors has also increased from eight in 2009 to twelve in 2012.

## **OTHER MDEQ EFFORTS**

The MDEQ has also helped to decrease the number of scrap tires generated by providing information on proper tire maintenance—including proper inflation, rotation, and driving habits through posters, press releases, and the MDEQ Web site. Extending tire life decreases the number of scrap tires generated.

The MDEQ has made efforts to educate residents concerning proper disposal options. Residents can dispose of used tires by taking them to any registered collection site, taking them back to most tire retailers, or taking them to a tire recycler. Some counties, cities, and townships offer tire drop-off locations periodically throughout the year. The MDEQ has made efforts to educate residents about hauling scrap tires. Michigan law allows a person to legally transport up to seven of their own tires. Transporting more than seven tires, or transporting tires that did not originate from the person's own household, requires either registration as a scrap tire hauler or that a registered scrap tire hauler be hired to haul the scrap tires. There is no fee to register as a scrap tire hauler.

## **CONTINUING NEEDS AND NEXT STEPS**

Though great progress has been made by the Program, there remains a need for:

- Maintaining a reliable funding level to enforce state regulations and avoid the potential for reappearance of scrap tire stockpiles.
- Cleaning up noncompliant tire collection sites (estimated 450,000 PTEs) and smaller accumulations.
- Managing ongoing scrap tire generation (estimated 10 million annually).
- Administering and enforcing Program requirements.
- Developing and supporting markets for scrap tires.
- Collecting data on end-users, markets, and actual numbers of tires used.

The MDEQ will work with the STAC to:

- Continue a more effective Scrap Tire Market Development Grant Program;
- Promote the use of rubber modified asphalt and other engineered uses of tires;
- Limit the growth of sites without appropriate bonding;
- Address remaining smaller tire accumulations and dumping;
- Address community and farm cleanups through the Cleanup Grant Program; and
- Discuss potential legislative changes.

Part 169 required the MDEQ to ensure that all abandoned scrap tires accumulated at collection sites prior to January 1, 1991, were cleaned up by September 30, 2009. The MDEQ has made significant progress toward this goal. It is estimated that less than a half of a percent of these pre-1991 tires remain. In addition, there were at least five million scrap tires accumulated after 1991 that posed an imminent threat to public health, safety, welfare, or the environment that were addressed by the deadline.

At current revenue and expenditure levels for the Scrap Tire Regulatory Fund (see Attachment 2), it is likely that the remaining 450,000 stockpiled scrap tires posing the greatest threat to public health, safety, welfare, or the environment, could be cleaned up by December 31, 2015. Beyond removal of existing stockpiles, ongoing monitoring and enforcement activities are needed to prevent creation of new, unmanaged stockpiles. Continued administration and enforcement of Part 169 is necessary to ensure that market prices for the beneficial uses of scrap tires are not undercut by the lower costs of unmanaged storage resulting in creation of new illegal scrap tire piles.

**Current Usage and Capacity of Existing  
and Potential Scrap Tire End-Users  
2011**

End Use	Annual permitted capacity (in tons)	Reported Use		Notes
		in tons	PTE	
<b>Reuse/Retreading</b>				
CM Rubber Technologies Coleman, MI grade tires		552	55,232	
Olson Tire Mt. Pleasant, MI retread		154	15,400	
Alma Tire Alma, MI retread		180	18,000	
Belle Tire Allen Park, MI retread		910	91,000	
Belleroc Tire Wyoming, MI retread		390	39,000	
First Class Tire Shredders Clio, MI grade tires		116	11,640	
Dependable Tire Warren, MI retread		203	20,300	
Jerry's Tire Flint, MI retread		110	10,983	
Ginman Tire Muskegon, MI retread, used tires		75	7,481	
Leslie Tire Mt. Clemens, MI retreads		120	12,000	
Meekoff Tires Grand Rapids, MI retread		495	49,480	
Schrader Tire and Oil Melvindale, MI retread		105	10,500	
Union Tire Ann Arbor, MI retread		104	10,400	
Wingfoot (Goodyear) Howell, MI retread		384	38,400	
Wonderland Tire Wayland, MI retread		260	26,000	
Silver Lining Recycling Wyandotte, MI grade tires		1,287	128,694	
<b>Total</b>		<b>5,445</b>	<b>544,510</b>	

**Current Usage and Capacity of Existing  
and Potential Scrap Tire End-Users  
2011**

<b>Landfill Usage (alternate daily cover, liner protection, lechate/gas collection)</b>				
<b>Landfill</b>				<b>Notes</b>
		<b>in tons</b>	<b>PTE</b>	
Granger: Wood St. and Grand River Landfills; Lansing, MI		3,180	318,000	
lechate/gas collection systems				
Marquette County Solid Waste Management Authority		108	10,831	tires use to hold down tarps over waste
certified end-user- daily cover, ADC				
Westside Recycling and Disposal		1,260	126,000	
lechate/gas collection systems, ADC				
Venice Park Recycling and Disposal, Lennon, MI				approved in license but has not used tires
ADC				
K & W Landfill				approved in license but has not used tires
Ontonagon, MI				
ADC				
Dafter Sanitary Landfill, Chippewa County				approved in license but has not used tires
ADC				
Michigan Environs, Inc., Menominee, MI				approved in license but has not used tires
ADC				
Pitsch Sanitary Landfill Belding, MI				Has not used scrap rubber since lining cell
ADC				
Ottawa County Farms Landfill				approved in license but has not used tires
Coopersville, MI				
ADC				
City of Midland Sanitary Landfill, Midland, MI				approved in license but has not used tires
ADC				
SE Berrien County Landfill Buchanan, MI		4,671	467,100	receive from Entech, Cobalt, Deerpath when their on-hand gets too high
ADC				
Peoples Landfill Inc. Birch Run, MI				approved in license but has not used tires
ADC				
Tri-City Recycling and Disposal Facility, Carsonville				approved in license but has not used tires
Sauk Trail Hills Canton, MI				approved in license but has not used tires
ADC				
Central Sanitary Landfill Cannonsville, MI				approved in license but has not used tires this seems to be due to lack of supply
ADC				
Brent Run Landfill Montrose, MI		2,806	280,584	
ADC				
<b>Total</b>		<b>9,219</b>	<b>921,931</b>	

**Current Usage and Capacity of Existing  
and Potential Scrap Tire End-Users  
2011**

<b>Tire Derived Fuel (TDF) Users</b>				
<b>Facility Information</b>	<b>Annual permitted capacity (in tons)</b>			<b>Notes</b>
		<b>in tons</b>	<b>PTE</b>	
American Resource Recovery Permit No. 9-94 Issued 7/27/1994	5 million/year capacity (not currently burning TDF)	0	0	0
Hillman Power, Hillman Permit No 687-86G Issued 3/13/2002 SRN N1266 ROP 199600190	20,000	11,477	1,147,700	not likely to increase capacity due to SO2 emissions
Viking Energy, McBain Permit No. 261-86G Issued 10/1999 SRN N1160 ROP 199600329	16,060	14,453	1,445,300	permit increase in 2001/2002- close to permit allowance shouldn't change
Viking Energy, Lincoln Permit No. 290-86C Issued 1/1997 SRN N0890 ROP 199600397	16,060	11,538	1,153,800	permit increase in 2001/2002- close to permit allowance shouldn't change
Wyandotte Power, Wyandotte Permit No. 253-98A Issued 2/2000 SRN B2132 ROP 199600303 PTI 253-98D	68,150	25,882	2,588,200	recent increase in permit from 21,550 to 68,150 tons
TES (Tondue Energy), Filer Permit No. 519-87F Issued 8/11/2000 SRN N1685 ROP 199600181	35,040	26,030	2,602,960	
Grayling Generating Station Permit No. 882-89E Issued 9/18/2001 SRN N2388 ROP 199600260	16,425	4,839	483,900	
Escanaba Paper Company SRN A0884 ROP 199700059 PTI 259-06	32,220	29,126	2,912,600	
Lanse Warden Electric Co. Permit No. 168-07A-B		13,548	1,354,800	
<b>Total TDF</b>	<b>203,955</b>	<b>136,893</b>	<b>13,689,260</b>	

**Current Usage and Capacity of Existing  
and Potential Scrap Tire End-Users  
2011**

<b>Out of State Users</b>				
		2011		Notes
		in tons	PTE	
Out of State Processors (see attached table)		21,336	2,133,579	from various out of state haulers
<b>Total</b>		<b>21,336</b>	<b>2,133,579</b>	

<b>Septic Drain Fields</b>				
		Last report data (2009)		Notes
		in tons	PTE	
Central Michigan Health District		66	6,600	approx 5 systems/year due to lack of affordable material
<b>Total</b>		<b>66</b>	<b>6,600</b>	

<b>Other Products</b>				
		2011		Notes
		in tons	PTE	
CM Rubber Technologies Coleman, MI Mulch/Playground/ crumb/ 2" drainfield		7,728	772,800	
Deerpath Recyclers St. Joseph, MI 1/2, 1/4 chips, crumb, septic chips		1,919	191,900	taken from Collection Site Registration
Entech, Inc. White Pigeon, MI rubber rock chips, chips, TDF		45,966	4,596,600	taken from Collection Site Registration
Huffman Rubber Homer, MI Aggregate, TDF, Crumb		8,969	896,900	taken from Collection Site Registration
Silver Lining Wyandotte, MI buffings, Mulch, TDF		28,652	2,865,200	
Environmental Rubber Rec Flint, MI TDF		115	11,500	
Express Tire Recycling Escaaba, MI TDF		103	10,300	
Cobalt Holding, LLC Sturgis, MI Crumb, TDF, Plastic		15,000	1,500,000	
Great American Env. Serv. Kingsford, MI TDF		406	40,610	
First Class Tire Shredders Clio, MI TDF		7,259	725,896	
<b>Total</b>		<b>116,117</b>	<b>11,611,706</b>	

**Current Usage and Capacity of Existing  
and Potential Scrap Tire End-Users  
2011**

<b>Sidewall Rings</b>				
CM Rubber Technologies		567	50,463	
Huffman Rubber		2,471	247,100	taken from Collection Site Registration
Entech		420	42,000	taken from Collection Site Registration
<b>Total</b>		<b>3,458</b>	<b>345,800</b>	

**Table 1 Use Comparison**

	2011		2010	
	Tons	PTE	Tons	PTE
<b>End Uses</b>				
Landfill Usage	9,219	921,931	413	41,265
TDF	136,893	13,689,260	111,334	11,133,398
<b>Total</b>	<b>146,112</b>	<b>14,611,191</b>	<b>111,747</b>	<b>11,174,663</b>
<b>Diversion</b>				
Reuse/Retread	5,445	544,510	3,578	357,776
Out of State	21,336	2,133,579	28,379	2,837,897
<b>Total</b>	<b>26,781</b>	<b>2,678,089</b>	<b>31,957</b>	<b>3,195,673</b>
<b>Products</b>				
Septic	66	6,600	3,300	330,000
Sidewall Rings	3,458	345,800	10,545	1,054,502
Other	116,117	11,611,706	47,030	4,702,993
<b>Total</b>	<b>119,641</b>	<b>11,964,106</b>	<b>60,875</b>	<b>6,087,495</b>

\*This table represents the Office of Waste Management and Radiological Protection staff's best estimate of the current usage and capacity of existing and potential scrap tire material end-users. Many end users are not mandated to report tire commodity usage; therefore this table only includes information voluntarily reported to the Department. Additionally, many of the processors report the creation of a commodity that is then reported as used by an end user.

**Glossary**

Out of State User = Tires were generated in Michigan and taken outside the state for use/disposal.

PTE = Passenger Tire Equivalent based on 1 PTE = 20 lbs (Increased to 22.5 lbs in 2012)

PTI = Permit to Install. The permit required for new or modified equipment or a change in the method of operation of existing equipment which causes certain increases in emissions.

ROP = Renewable Operating Permit. Old PTIs are voided and the conditions are placed into the ROP. New PTIs are also eventually rolled into the ROP for a major source of air emissions.

SRN = State Registration Number, which does not change for a site even when names or numbers change. It is the most certain way to identify correct information for a facility.

## Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2011

End-user = means any of the following:

- (i) A person who possesses a permit to burn tires under part 55.
- (ii) The owner or operator of a landfill that is authorized under the landfill's operating license to use scrap tires.
- (iii) A person who uses a commodity to make a product that is sold in the market.
- (iv) A person who is authorized by this part to accumulate scrap tires, who acquires scrap tires, and who converts scrap tires into a product that is sold in the market or reused in a manner authorized by this part.

Table 2: Out of State Haulers and End Uses

Company name	contact	phone	category	2011 Numbers		end use	delivery location
				tons	PTE		
Alternative Two	Ken Schumacher	574-299-0559	Recycleable Material Merchant Wholesaler	112	11,236	hauler	Deerpath
Auburndale Recycling Center INC	Theresa Hansen	715-652-3622	Recycleable Material Merchant Wholesaler	338	33,821	processor	Auburndale, WI
Bay Enviro Tire INC	Bruce Phillips	920-469-1532	Recycleable Material Merchant Wholesaler	12	1,200	hauler	Green Bay, WI
Bee Line Transportation INC	Beverly Busche	715-623-5085	Recycleable Material Merchant Wholesaler	1,020	102,000	hauler	Antigo, WI
Enviro Tire Recycling	William Frankart	419-934-0535	Recycleable Material Merchant Wholesaler	2,940	293,957	hauler	Entech, White Pigeon MI
Liberty Tire Services of Ohio	Ken Lakin	773-871-6260	Recycleable Material Merchant Wholesaler	67	6,742	processor	Chicago IL
Liberty Tire Services of Ohio LLC	John Dillon	517-656-3429	Recycleable Material Merchant Wholesaler	1,096	109,551	processor	North Liberty, IN
Lightner Tire Company	Les Lightner	330-724-7436	Recycleable Material Merchant Wholesaler	793	79,349	hauler	St. Martin, MN
LKQ Tire & Recycling INC	Natalie Kimbrell	708-239-6554	Recycleable Material Merchant Wholesaler	182	18,200	hauler	Deerpath Dowagiac, MI
Paul's Auto Yard INC	Paul Schafer	219-785-2613	Recycleable Material Merchant Wholesaler	6,247	624,700	hauler	County Line Landfill Wheatland, IN
Pomp's Tire Service INC	Jim Wochinske	920-435-8301	Recycleable Material Merchant Wholesaler	287	28,650	hauler	Liberty Tire Savage, MN
Sparks Commercial Tire INC	David Sparks	419-422-0733	Recycleable Material Merchant Wholesaler	1,500	150,000	hauler	Liberty North Liberty, IN
Stansley Industries INC	Carrie Aker	419-841-6960	Recycleable Material Merchant Wholesaler	5,125	512,500	hauler	Silver Lining Recycling Wyandotte, MI
Tire Reclaimers LLC	James Shreiner	574-596-9852	Recycleable Material Merchant Wholesaler	1,467	146,700	hauler	Entech, White Pigeon MI
Waste Management of Ohio INC	Dale Spering	419-666-5136	Recycleable Material Merchant Wholesaler	16	1,573	hauler	Environmental Rubber Recycling Flint, MI
Whitewall Tire Company	Richard Larson	920-683-2043	Recycleable Material Merchant Wholesaler	134	13,400	hauler	Liberty Tire Auburndale, WI

**total:** 21,336 2,133,579

DEPARTMENT OF ENVIRONMENTAL QUALITY

Status of Scrap Tire Regulatory Fund as of September 2011

(Amounts in thousands)

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
<b>Beginning Fund Balance:</b>	\$ 3,105.5	\$ 2,990.7	\$ 1,874.6	\$ 3,109.6	\$ 3,591.0	\$ 4,405.7	\$ 3,221.2
<b>Appropriated for Operations:</b>	1,525.5	1,583.7	1,636.5	1,640.6	1,796.2	1,905.6	1,628.5
<b>Appropriated for Grants:</b>	4,500.0	4,500.0	4,500.0	3,700.0	3,700.0	3,500.0	3,500.0
<b>Total Appropriations:</b>	6,025.5	6,083.7	6,136.5	5,340.6	5,496.2	5,405.6	5,128.5
<b>Expenditures:</b>							
Operations	1,340.9	1,342.5	1,445.5	1,538.5	1,649.3	1,491.0	1,535.7
Grants	3,211.7	4,222.6	1,283.8	1,943.9	580.0	3,043.5	2,650.0
Other					1,000.0	650.0	-
<b>Total Expenditures:</b>	4,552.6	5,565.1	2,729.3	3,482.4	3,229.3	5,184.5	4,185.7
<b>Revenue (including interest):</b>	4,437.8	4,449.0	3,964.3	3,963.8	4,044.0	4,000.0	3,900.0
<b>Year End Fund Balance:</b>	\$ 2,990.7	\$ 1,874.6	\$ 3,109.6	\$ 3,591.0	\$ 4,405.7	\$ 3,221.2	\$ 2,935.5

Notes:

- 1) Figures in shaded areas represent estimated or projected amounts.
- 2) Expenditures in a given fiscal year may include expenditures from previous appropriations, due to encumbrances carried forward and expended in subsequent fiscal years. For example, projected FY 2012 expenditures include \$619,000 of encumbered FY 2009, FY 2010, and FY 2011 grants that were not completed as of September 30, 2011, and are scheduled to be completed during FY 2012.
- 3) Effective October 1, 2002, the tire disposal surcharge fee was increased from \$0.50 to \$1.50 per vehicle title issued.
- 4) In FY 2005 the number of vehicle titles issued began to decline, which has resulted in less annual revenue. Revenue declined again in FY 2009, held steady in FY 2010, and increased slightly in FY 2011.
- 5) Effective September 30, 2011, the tire disposal surcharge fee sunset is December 31, 2015.
- 6) "Other" in the Expenditures section above reflects payments to be made in FY 2011 and FY 2012 under a settlement agreement re: *Richfield Landfill, Inc. v State of Michigan*.