MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Steve Sliver, Interim Chief,
Office of Waste Management and Radiological Protection (OWMRP)

FROM: Carrie Hardigan, Acting Chief, Solid Waste Section, OWMRP

DATE: September 14, 2016

SUBJECT: 2013 Scrap Tire End-Use Data Revisions; 2014 & 2015 Scrap Tire Estimated Usage and Capacity

2013 Scrap Tire End-Use Data Revisions

After conducting quality control checks on the previously reported 2013 End-Use data, it was discovered that there were issues with how the data was reported. Some of the 2013 numbers were reported in the wrong units. Scrap tires may be reported by volume or weight, in Passenger Tire Equivalents (PTEs), or in tons. There are approximately 89 PTEs to a ton. Therefore, reporting in the incorrect units (PTEs vs tons and vice versa) can have a significant effect on the data collected. The Department of Environmental Quality (DEQ) forms used by the industry for reporting may have contributed to this issue and proposed changes to the forms may help to alleviate this issue in future reporting years.

Further evaluation of the previously reported 2013 numbers has resulted in changes in the following amounts:

1. The tire-derived fuel (TDF) category is being increased from 107,904 tons to 112,580 tons.

2. The out of state category is being decreased from 47,606 tons to 9,006 tons. This is an overall decrease of approximately 34,000 tons.

Further documentation regarding what changes were made and why is available upon request. While there continues to be issues with the quality of data reported by the industry, data quality is improving each year.

2014 & 2015 Scrap Tire Estimated Usage and Capacity

The attached tables represent the Sustainable Material Management Unit's best estimate of the current usage and capacity for existing and potential scrap tire material end-users for calendar years 2014 and 2015. The information in the tables is based on current permits issued, reported use in calendar years 2014 and 2015, and staff knowledge of usage based on market contacts.

Scrap tire usage decreased in 2015 by roughly 1.3 million PTEs, compared with 2014, countering a slight upswing from 2013. This is most likely attributed to the decline in the demand for tire derived fuel (TDF). Most tire processors in Michigan built their markets around TDF, although there is growing interest in new molded and tire chip products.

The growth of a products market in Michigan is difficult to predict and will depend on the ingenuity of scrap tire processors in finding or creating new markets and the impact of the Department of Environmental Quality's (DEQ) scrap tire market development grants in support of these efforts.

Out-of-state use of Michigan scrap tires more than tripled from 2013 to 2014, consistent with an increase in the number of out-of-state haulers. However, this number then fell by 500,000 PTEs in 2015. This may be due to a slight decrease in out-of-state haulers registering to conduct business in Michigan. The markets for outward bound scrap tires are mostly unknown. The lack of mandatory reporting for scrap tire end-use hampers the ability of the DEQ to track anything outside the borders of the State of Michigan with any certainty. Sustainable Materials Management Unit staff anticipates the overall number of haulers registered in Michigan for 2016 will decrease due to the enforcement of the $10,000 Scrap Tire Hauler bonding requirement.

The Reuse/Retread category increased by roughly 1,200,000 PTEs over the last two years. The rest of the numbers are less appealing. Usage of scrap tires by landfill owners/operators showed a slight increase from 2013, but may further demonstrate the continued decline in Michigan end-use markets. As processors try to meet the processor bond exemption requirement of demonstrating that at least 75 percent of the scrap tires, by weight or volume, are recycled or used for resource recovery, they may resort to sending material to landfills for reuse or disposal. The landfill usage numbers may also be inflated due to a lack of scrap tire reuse or disposal data reported by landfill owners/operators. A significant portion of the reported increase was from processors claiming that landfill owners/operators were using the material for alternate daily cover (ADC). However, much of this data has not been corroborated, so it is uncertain if the material was actually used as ADC or simply disposed. Septic field usage is showing a slight increase over previous years due to more accurate reporting by processors. This market is not expected to rise significantly due to the abundance and availability of cheap aggregate in Michigan. While tire chips have certain demonstrated advantages over stone in landfill and septic drain applications, it currently costs more than aggregate.

There appears to have been an anomalistic increase in the TDF market in 2014. However, this is due mainly to the amount of TDF used by Michigan South Central Power that was not reported in 2013. The TDF market showed a small decrease from 2014 to 2015. Unfortunately, a continued decline in the TDF market is expected over the next three years, with the decommissioning of the Michigan South Central Power Plant and several other power plants slated for decommissioning or planning to cease burning TDF before the end of 2016. The cost of energy plays a big role in this market and the market decline has caused an increase in TDF piles at many Michigan scrap tire processors. The cost of energy is based on low oil prices, a global glut of natural gas, a continuing decline in the cost of other alternative energy sources, and the costs of operating coal fired or co-generation plants, including installation of equipment to meet new federal clean air regulations aimed at reducing emissions from coal plants. Currently, the largest consumers of TDF in Michigan tend to be the smaller co-generation plants. Burning TDF is

important to maintaining scrap tire consumption in Michigan given the lack of alternative markets.

Looking forward, the next best option to consume large quantities of scrap tire rubber is rubber-modified asphalt (RMA). This market has grown over the last few years through the assistance of the Scrap Tire Market Development Grant Program. However, increasing the demand for RMA is proving difficult. This is due in part to the fact that performance results from paving projects using RMA take several years of data collection and assessment, and many of the previously funded projects are still being studied. In addition, DEQ Air Quality Division (AQD) restrictions have, so far, limited the size of road projects that could be installed under a Part 55, Air Quality, Research & Development (R&D) exemption. In 2015, OWMRP worked with AQD to develop a state air quality permit exemption demonstration letter under Michigan Air Pollution Control Rule R 336.1285(b) (Rule 285(b)) for asphalt processing plants to process and produce RMA. The DEQ provided funding through the Scrap Tire Market Development Grant Program for stack testing at an asphalt plant in order to collect the necessary data for AQD to determine if asphalt plants can amend their air permits to produce RMA under the exemption. In reviewing the stack test data, AQD found no significant impact on air emissions from use of up to 12 percent crumb rubber (30 mesh) in terminal blend hot mix asphalt. As a result of the RMA stack testing study, AQD agreed to allow asphalt producers to produce RMA without requiring a new AQD permit or permit modification. However, prior to production, a plant owner/operator must submit a formal notification to the AQD in the local DEQ District Office of the intent to produce RMA with 12 percent or less crumb rubber content. AQD provided an example Exemption demonstration letter for Crumb Rubber Asphalt Production for this purpose (see attachment 4). If a plant owner/operator wishes to use higher crumb rubber content, an AQD permit engineer may allow, on a case-by-case basis, a higher crumb content to be utilized based on measurements extrapolated from the stack test results.

The Scrap Tire Program continues to work on development of additional markets. However, low oil prices continue to depress the price of virgin rubber materials, making them cheaper to use than recycled tire rubber.

Attachments

cc: Rhonda Oyer, DEQ
Aaron Hiday, DEQ

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2014

End Use	Annual permitted capacity (in tons)	Reported Use	
		in tons	PTE
Reuse/Retreading			
CM Rubber Technologies Coleman, MI *grade tires*		234	20,826
Olson Tire Mt. Pleasant, MI *retread*		148	13,191
Alma Tire *Alma, MI* *retread*		1,490	132,615
Belle Tire *Allen Park, MI* *retread*		864	76,903
Belleroc Tire *Wyoming, MI* *retread*		447	39,814
First Class Tire Shredders *Clio, MI* *grade tires*		102	9,045
Dependable Tire *Warren, MI* *retread*		1,685	150,000
Jerry's Tire *Flint, MI* *retread*		1,451	129,120
Ginman Tire *Muskegon, MI* *retread, used tires*		0	0
Leslie Tire *Mt. Clemens, MI* *retreads*		0	0
Meekoff Tires *Grand Rapids, MI* *retread*		2,247	200,000
Schrader Tire and Oil *Melvindale, MI* *retread*		2,634	234,405
Union Tire *Ann Arbor, MI* *retread*		730	65,000
Wingfoot (Goodyear) *Howell, MI* *retread*		2,478	220,580
Wonderland Tire *Wayland, MI* *retread*		1,875	166,865
Silver Lining Recycling *Wyandotte, MI* *grade tires*		4,611	410,360
Entech, Inc. *White Pigeon, MI* *used tires*		551	49,039
Huffman Rubber *Homer, MI* *used tires*		243	21,651

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2014

End Use	Annual permitted capacity (in tons)	Reported Use	
		in tons	PTE
Reuse/Retreading			
Deerpath Recyclers Dewogiac, MI *used tires*		871	77,519
Total		***22,662***	***2,016,933***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2014

Landfill Usage (alternate daily cover, liner protection, leachate/gas collection)

Landfill		2014 in tons	2014 PTE
Granger: Wood St. and Grand River Landfills; Lansing, MI leachate/gas collection systems		746	66,400
Marquette County Solid Waste Management Authority certified end-user- daily cover, ADC		133	11,803
Westside Recycling and Disposal leachate/gas collection systems, ADC		30	2,670
Venice Park Recycling and Disposal, Lennon, MI ADC			
K & W Landfill Ontonagon, MI ADC			
Dafter Sanitary Landfill, Chippewa County ADC			
Pitsch Sanitary Landfill Belding, MI leachate/gas collection systems, ADC		132	11,748
Ottawa County Farms Landfill Coopersville, MI ADC			
City of Midland Sanitary Landfill, Midland, MI ADC		0	0
SE Berrien County Landfill Buchanan, MI ADC		700	62,300
Peoples Landfill Inc. Birch Run, MI ADC			
Tri-City Recycling and Disposal Facility, Carsonville			
Sauk Trail Hills Canton, MI ADC			
Central Sanitary Landfill Cannosnville, MI ADC			
Brent Run Landfill Montrose, MI ADC			
Total		***1,741***	***154,921***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2014

Tire Derived Fuel (TDF) Users			
Facility Information	**Annual permitted capacity (in tons)**	**2014**	
		in tons	**PTE**
American Resource Recovery Permit No. 9-94 Issued 7/27/1994	5 million/year capacity (not currently burning TDF)	0	0
Hillman Power, Hillman Permit No 687-86G Issued 3/13/2002 SRN N1266 ROP 199600190	20,000	7,936	706,304
Viking Energy, McBain Permit No. 261-86G Issued 10/1999 SRN N1160 ROP 199600329	16,060	11,461	1,019,993
Viking Energy, Lincoln Permit No. 290-86C Issued 1/1997 SRN N0890 ROP 199600397	16,060	11,140	991,460
Wyandotte Power, Wyandotte Permit No. 253-98A Issued 2/2000 SRN B2132 ROP 199600303 PTI 253-98D	68,150	10,651	947,943
TES (Tondu Energy), Filer Permit No. 519-87F Issued 8/11/2000 SRN N1685 ROP 199600181	35,040	26,415	2,350,891
Grayling Generating Station Permit No. 882-89E Issued 9/18/2001 SRN N2388 ROP 199600260	16,425	5,810	517,105
Escanaba Paper Company SRN A0884 ROP 199700059 PTI 259-06	32,220	24,786	2,205,925
Lanse Warden Electric Co. Permit No. 168-07A-B		10,861	966,640
Genesee Power Station Permit No.		3277	291638
Michigan South Central Power Permit No.		9548	849754
Total TDF	***203,955***	***121,884***	***10,847,651***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2014

Out of State Users		2014	
		in tons	PTE
From Out of State Haulers		28,841	2,566,822
Total		***28,841***	***2,566,822***

Septic Drain Fields		2014		
		in tons	PTE	
Central Michigan Health District Reports		70	6,230	Reported total of 140 tons for 2014/2015
Total		***70***	***6,230***	

Other Products		2014	
		in tons	PTE
CM Rubber Technologies Coleman, MI *Mulch/Playground/ crumb/ 2" drainfield/molded products*		4,740	421,860
Deerpath Recyclers St. Joseph, MI *1/2, 1/4 chips, crumb, septic chips*		8,367	744,663
Entech, Inc. White Pigeon, MI *rubber rock chips, chips,TDF, rings*		67,360	5,995,040
Huffman Rubber Homer, MI *Aggregate, TDF, Crumb, silage rings*		6,460	574,940
Silver Lining Wyandotte, MI *buffings, Mulch, TDF*		23,613	2,101,533
Cobalt Holding, LLC *Sturgis, MI* *Mulch, Crumb, TDF, Plastic/rubber pellets*		6,879	612,231
Great American Env. Serv. *Kingsford, MI* *TDF*		692	61,579
First Class Tire Shredders *Clio, MI* *TDF*		11,249	1,001,162
Total		***129,360***	***11,513,008***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2014

Sidewall Rings			
CM Rubber Technologies		486	43,254
Huffman Rubber		77	6,844
Entech		159	14,151
Total		***722***	***64,249***

Table 1 Use Comparison

	2014		2013	
Totals	**Tons**	**PTE**	**Tons**	**PTE**
End Uses				
Landfill Usage	1,741	154,921	3,085	274,565
TDF Used	121,884	10,847,651	112,580	10,019,620
Total	123,624	11,002,572	115,665	10,294,185
Diversion				
Reuse/Retread	22,662	2,016,933	15,541	1,383,149
Out of State	28,841	2,566,822	9,006	801,534
Total	51,503	4,583,756	24,547	2,184,683
Products				
Septic	70	6,230	13	1,157
Sidewall Rings	722	64,249	3,639	323,871
Other	129,360	11,513,008	117,971	10,499,419
Total	130,152	11,583,487	121,623	10,824,447

*This table represents the Office of Waste Management and Radiological Protection'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 DEQ. Additionally, many of the processors report the creation of a commodity that is then reported as used by an end user, which requires further investigation to determine if some of the reported numbers have been double counted.

Glossary

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

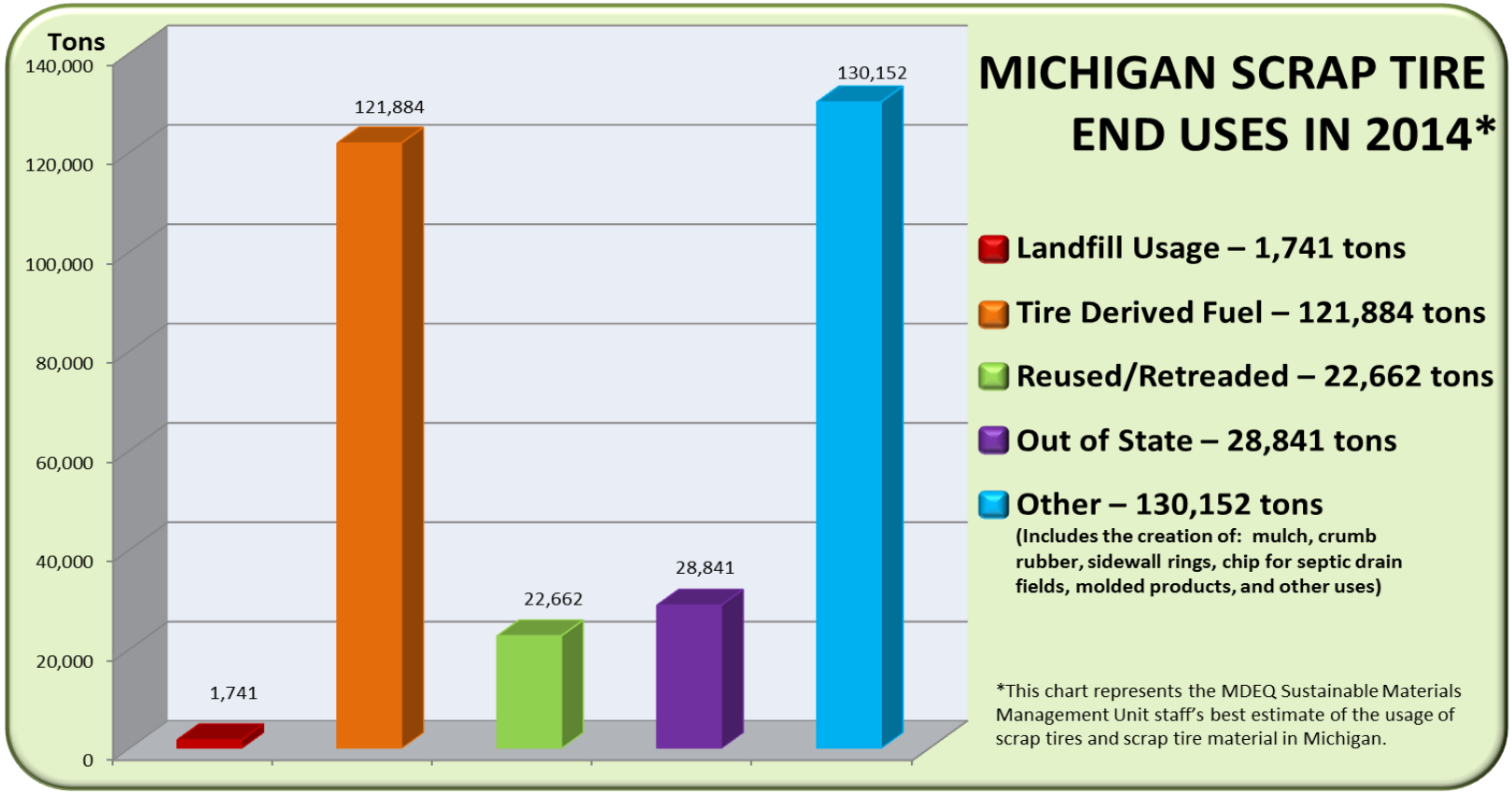
PTE = Passenger Tire Equivalent based on 1 PTE = 22.5 lbs

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.

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.


Tons
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
1,741
121,884
22,662
28,841
130,152
MICHIGAN SCRAP TIRE END USES IN 2014*
Landfill Usage – 1,741 tons
Tire Derived Fuel – 121,884 tons
Reused/Retreaded – 22,662 tons
Out of State – 28,841 tons
Other – 130,152 tons
(Includes the creation of: mulch, crumb rubber, sidewall rings, chip for septic drain fields, molded products, and other uses)
*This chart represents the MDEQ Sustainable Materials Management Unit staff's best estimate of the usage of scrap tires and scrap tire material in Michigan.

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2015

End Use	Annual permitted capacity (in tons)	Reported Use	
		in tons	PTE
Reuse/Retreading			
CM Rubber Technologies Coleman, MI *grade tires*		178	15,842
Olson Tire Mt. Pleasant, MI *retread*		752	66,935
Alma Tire *Alma, MI* *retread*		1,398	124,410
Belle Tire *Allen Park, MI* *retread*		4,199	373,740
Belleroc Tire *Wyoming, MI* *retread*		2,346	208,765
First Class Tire Shredders *Clio, MI* *grade tires*		135	12,047
Dependable Tire *Warren, MI* *retread*		1,685	150,000
Jerry's Tire *Flint, MI* *retread*		1,592	141,700
Ginman Tire *Muskegon, MI* *retread, used tires*		0	0
Leslie Tire *Mt. Clemens, MI* *retreads*		0	0
Meekoff Tires *Grand Rapids, MI* *retread*		2,247	200,000
Schrader Tire and Oil *Melvindale, MI* *retread*		2,705	240,710
Union Tire *Ann Arbor, MI* *retread*		562	50,000
Wingfoot (Goodyear) *Howell, MI* *retread*		2,344	208,625
Wonderland Tire *Wayland, MI* *retread*		1,823	162,235
Silver Lining Recycling *Wyandotte, MI* *grade tires*		4,609	410,221
Entech, Inc. *White Pigeon, MI* *used tires*		1,639	145,871

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2015

End Use	Annual permitted capacity (in tons)	Reported Use	
		in tons	PTE
Reuse/Retreading			
Huffman Rubber *Homer, MI* *used tires*		275	24,495
Empire Iron Mine *Marquette, MI* *mining tire wind barriers*		606	53,934
Deerpath Recyclers *Dewogiac, MI* *used tires*		940	83,660
Total		***30,036***	***2,673,191***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2015

Landfill Usage (alternate daily cover, liner protection, leachate/gas collection)

Landfill		2015 in tons	2015 PTE
Granger: Wood St. and Grand River Landfills; Lansing, MI leachate/gas collection systems		1,196	106,400
Marquette County Solid Waste Management Authority certified end-user- daily cover, ADC		86	7,636
Westside Recycling and Disposal leachate/gas collection systems, ADC			
Venice Park Recycling and Disposal, Lennon, MI ADC			
K & W Landfill Ontonagon, MI ADC			
Dafter Sanitary Landfill Chippewa County ADC			
Pitsch Sanitary Landfill Belding, MI leachate/gas collection systems, ADC			
Ottawa County Farms Landfill Coopersville, MI ADC			
City of Midland Sanitary Landfill, Midland, MI ADC		0	0
SE Berrien County Landfill Buchanan, MI ADC		6,919	615,791
Peoples Landfill Inc. Birch Run, MI ADC			
Tri-City Recycling and Disposal Facility, Carsonville			
Sauk Trail Hills Canton, MI ADC			
Central Sanitary Landfill Cannosnville, MI ADC			
Brent Run Landfill Montrose, MI ADC			
Total		***8,200***	***729,827***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2015

Tire Derived Fuel (TDF) Users			
Facility Information	**Annual permitted capacity (in tons)**	**2015**	
		in tons	**PTE**
American Resource Recovery Permit No. 9-94 Issued 7/27/1994	5 million/year capacity (not currently burning TDF)	0	0
Hillman Power, Hillman Permit No 687-86G Issued 3/13/2002 SRN N1266 ROP 199600190	20,000	9,125	812,101
Viking Energy, McBain Permit No. 261-86G Issued 10/1999 SRN N1160 ROP 199600329	16,060	12,794	1,138,654
Viking Energy, Lincoln Permit No. 290-86C Issued 1/1997 SRN N0890 ROP 199600397	16,060	11,428	1,017,092
Wyandotte Power, Wyandotte Permit No. 253-98A Issued 2/2000 SRN B2132 ROP 199600303 PTI 253-98D	68,150	3,186	283,568
TES (Tondu Energy), Filer Permit No. 519-87F Issued 8/11/2000 SRN N1685 ROP 199600181	35,040	26,813	2,386,357
Grayling Generating Station Permit No. 882-89E Issued 9/18/2001 SRN N2388 ROP 199600260	16,425	2,344	208,587
Escanaba Paper Company SRN A0884 ROP 199700059 PTI 259-06	32,220	23,205	2,065,261
Lanse Warden Electric Co. Permit No. 168-07A-B		13,566	1,207,341
Genesee Power Station Permit No.		1,880	167,296
Michigan South Central Power Permit No. 168-07A-B		16,983	1,511,461
Total TDF	***203,955***	***121,323***	***10,797,719***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2015

Out of State Users		2015	
		in tons	PTE
From Out of State Haulers		23,550	2,095,943
Total		***23,550***	***2,095,943***

Septic Drain Fields		2015		
		in tons	PTE	
Deerpath Recyclers		298	26,522	
Central Michigan Health District Reports		70	6,230	Reported total of 140 tons for 2014/2015
Total		***368***	***32,752***	

Other Products		2015	
		in tons	PTE
CM Rubber Technologies Coleman, MI *Mulch/Playground/ crumb/ 2" drainfield/molded products*		3,261	290,229
Deerpath Recyclers St. Joseph, MI *1/2, 1/4 chips, crumb, septic chips*		3,755	334,195
Entech, Inc. White Pigeon, MI *rubber rock chips, chips,TDF*		62,013	5,519,157
Huffman Rubber Homer, MI *Aggregate, TDF, Crumb, silage rings*		5,433	483,555
Silver Lining Wyandotte, MI *buffings, Mulch, TDF*		20,553	1,829,204
Cobalt Holding, LLC *Sturgis, MI* *Mulch, Crumb, TDF, Plastic/rubber pellets*		4,901	436,189
Great American Env. Serv. *Kingsford, MI* *TDF*		1,502	133,714
First Class Tire Shredders *Clio, MI* *TDF*		11,395	1,014,117
Total		***112,813***	***10,040,360***

Current Usage and Capacity of Existing and Potential Scrap Tire End-Users 2015

Sidewall Rings			
CM Rubber Technologies		441	39,249
Huffman Rubber		2,257	200,840
Total		***2,698***	***240,089***

Table 1 Use Comparison

	2015		2014	
Totals	**Tons**	**PTE**	**Tons**	**PTE**
End Uses				
Landfill Usage	8,200	729,827	1,741	154,921
TDF Used	121,323	10,797,719	121,884	10,847,651
Total	129,523	11,527,546	123,624	11,002,572
Diversion				
Reuse/Retread	30,036	2,673,191	22,662	2,016,933
Out of State	23,550	2,095,943	28,841	2,566,822
Total	53,586	4,769,134	51,503	4,583,756
Products				
Septic	368	32,752	70	6,230
Sidewall Rings	2,698	240,089	722	64,249
Other	112,813	10,040,360	129,360	11,513,008
Total	115,879	10,313,201	130,152	11,583,487

*This table represents the Office of Waste Management and Radiological Protection'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 DEQ. Additionally, many of the processors report the creation of a commodity that is then reported as used by an end user, which requires further investigation to determine if some of the reported numbers have been double counted.

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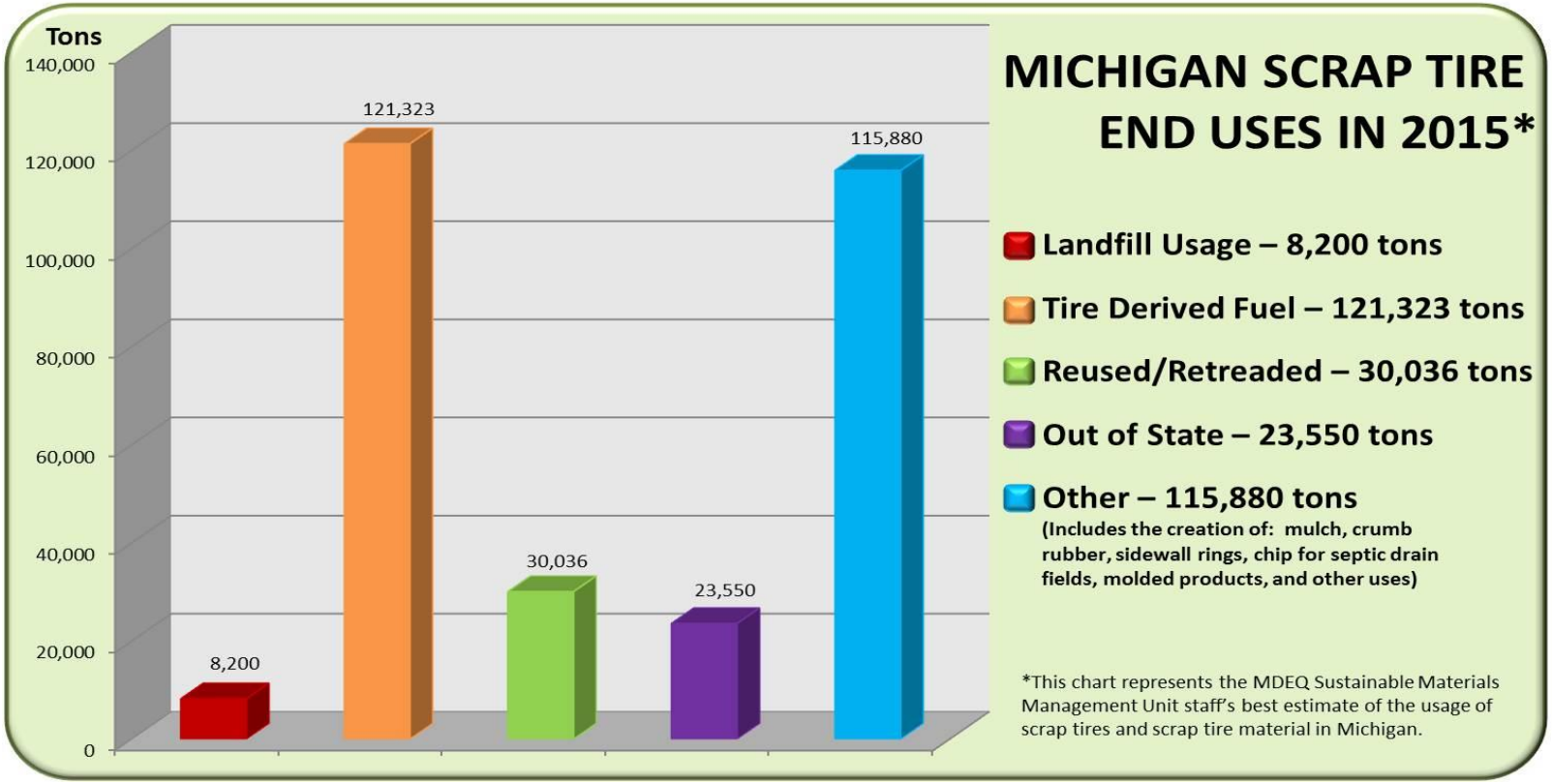
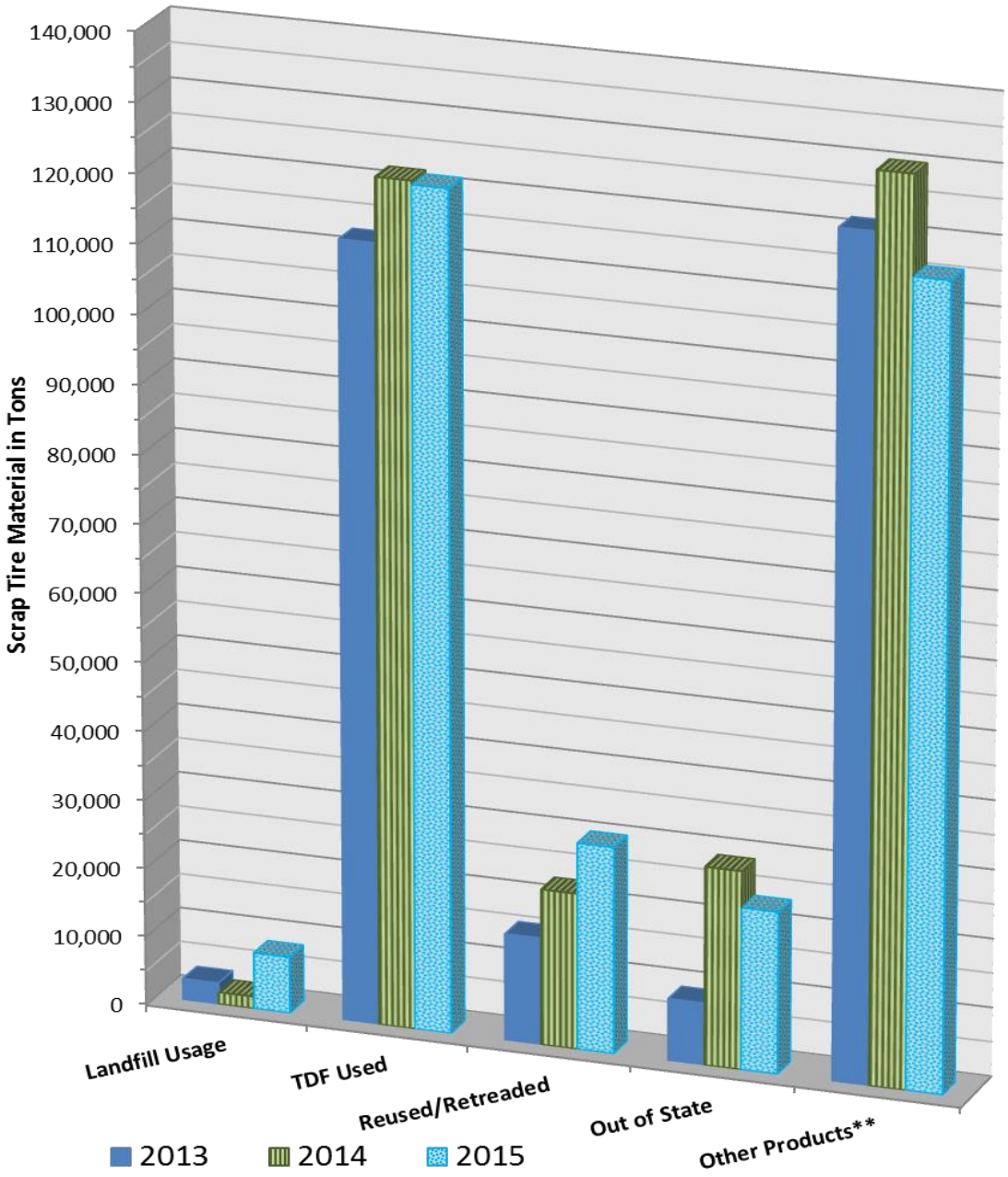

Tons
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
8,200
121,323
30,036
23,550
115,880
MICHIGAN SCRAP TIRE END USES IN 2015*
Landfill Usage – 8,200 tons
Tire Derived Fuel – 121,323 tons
Reused/Retreaded – 30,036 tons
Out of State – 23,550 tons
Other – 115,880 tons
(Includes the creation of: mulch, crumb rubber, sidewall rings, chip for septic drain fields, molded products, and other uses)
*This chart represents the MDEQ Sustainable Materials Management Unit staff's best estimate of the usage of scrap tires and scrap tire material in Michigan.

Michigan Scrap Tire Uses*



*This chart represents the MDEQ Sustainable Materials Management Unit staff's best estimate of the usage of scrap tires and scrap tire material in Michigan.

**Includes the creation of: mulch, crumb rubber, sidewall rings, chip for septic drain fields, molded products, and other uses

Date

Exemption demonstration letter for Crumb Rubber Asphalt Production

Letter to MDEQ Air Quality District Office

Dear (AQD District Supervisor):

(Company Name) owns and operates a hot mix asphalt facility located at _____. This facility currently operates under Air Use Permit to Install (PTI) (Number).

The purpose of this letter is to seek an exemption under Michigan Air Pollution Control Rule R 336.1285(b) (Rule 285(b)) to allow our plant to produce rubber modified asphalt (RMA) containing a maximum crumb rubber content of 12 percent. Our facility intends to use this exemption unless we are notified otherwise by you or your Office.

Background on RMA

RMA includes several advantages over conventional hot mix asphalt, including increased stiffness at high service temperatures, increased elasticity at medium service temperatures, and decreased stiffness at low service temperatures. In addition, as the majority of the crumb used in RMA is ground-up tires, RMA production offers the opportunity to recycle large amounts of unwanted waste tires.

The Michigan Department of Environmental Quality (DEQ) Office of Waste Management and Radiological Protection (OWMRP) implements a Scrap Tire Market Development Grant program. RMA producers are eligible to apply for grants within this program.

Seeking exemption under Rule 285(b)

(Company Name) is seeking an exemption from obtaining a new or modified PTI for the production of RMA in our plant. Michigan Air Pollution Control Rule R 336.1285(b) (Rule 285(b)) allows this exemption as stated below:

“Changes in a process or process equipment which do not involve installing, constructing, or reconstructing an emission unit and which do not involve any meaningful change in the quality and nature or any meaningful increase in the quantity of the emission of an air contaminant therefrom.”

Description of process

We are proposing to produce (terminal blend crumb rubber asphalt, dry plant mix blend crumb rubber asphalt, or wet plant mix blend crumb rubber asphalt) at a maximum production temperature of (degrees) Fahrenheit. The crumb rubber content of the

binder used will not exceed a maximum of 12 percent. The production of RMA in our facility will require the following physical modifications (describe the required modifications if any) to the plant. No changes to the existing air pollution control equipment and exhaust stacks will occur.

Reasons why Rule 285 (b) applies

In July of 2015 stack testing was performed at an asphalt plant in Hancock, Michigan. Three different operating modes – normal hot mix asphalt, hot mix asphalt with crumb rubber binder, and warm mix asphalt with crumb rubber binder – were evaluated. The maximum crumb rubber used during these tests was 12 percent. The testing showed that the inclusion of crumb rubber in asphalt has little effects on the emissions of the pollutants tested. Stack testing was also performed in October of 2014 at an asphalt plant in Lansing, Michigan. That testing concurred that the inclusion of crumb rubber in asphalt has little effects on the emissions of the pollutants tested. Similar stack testing done in 2005 at an asphalt plant in Lakeport, California also showed that crumb rubber has minimal effects on emissions. Air Quality Division staff reviewed all three sets of stack testing and concurred with the results.

Based upon these tests, it is not believed that the production of RMA in an already permitted plant will result in a meaningful change in the quality and nature or any meaningful increase in the quantity of the emission of an air contaminant therefrom; thereby meeting the requirements of Rule 285(b). Therefore, it is our conclusion that the proposed change in process/ process equipment does not require a new or modified PTI.

Should you have any questions or require additional information, please feel free to contact me at _____.

Sincerely,