STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

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RUSSELL J. HARDING, Director

March 5, 2001

The Honorable Loren Bennett, Chair
Senate Appropriations Subcommittee on
Environmental Quality
State Capitol
P.O. Box 30036
Lansing, MI 48909-7536

The Honorable David Mead, Chair
House Appropriations Subcommittee on
Natural Resources and Environmental Quality
State Capitol
P.O. Box 30014
Lansing, MI 48909-7514

Dear Senator Bennett and Representative Mead:

As required in 2000 PA 275, Section 1003, attached is the report titled, *Statewide Strategy to Expand the Use of Tire-Derived Fuels.*

Should you require further information, please contact Mr. Dennis Fedewa, Chief, Financial and Business Services Division, at 517-241-7427.

Sincerely

Gary R. Hughes, acting

Russell J. Harding
Director
517-373-7917

Attachment
cc/att: Ms. Pam Graham, Senate Fiscal Agency
Dr. Kirk Lindquist, House Fiscal Agency
Mr. Bryan Vance, DMB
Mr. Timothy R. Sowton, DEQ
Mr. Jim Sygo, DEQ
Mr. Dennis Fedewa, DEQ

STATEWIDE STRATEGY TO EXPAND THE USE OF TIRE-DERIVED FUELS

February 2001

Required by Section 1003 of Fiscal Year 2001 Department of Environmental Quality Appropriations Act, 2000 PA 275

I. Introduction

Section 1003 of the Department of Environmental Quality (DEQ) Appropriation Act, 2000 PA 275, requires that the DEQ "develop a strategy to expand the use of tire-derived fuels by public utilities, governmental units, and private industry as a means of eliminating accumulated scrap tires." This report is in fulfillment of that requirement.

II. Background

There are in excess of 25 million scrap tires stored or dumped at various sites around the state of Michigan. In addition, the Michigan consumer generates more than 7.5 million scrap tires each year. In 1991, legislation was enacted to properly manage scrap tires and prevent the continued accumulation of massive tire piles and the associated public health and environmental concerns inherent with such tire piles. Part 169, Scrap Tires, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, is implemented and enforced by the DEQ, resulting in improved scrap tire management and reduced public health and environmental concerns at many of the larger scrap tire collection sites. Part 169, as written, promotes acceptable recycling of scrap tires as a less costly alternative to storage of scrap tires. As such, Michigan scrap tire markets have continued to grow since 1991.

III. Tire Derived Fuel (TDF) Markets

In November of 1992, Hillman Power Company (Hillman), Hillman, Michigan, was issued a permit to use TDF as a co-fuel with wood to generate electricity. TDF generates approximately 15,000 British Thermal Units (BTUs) per pound (300,000 BTUs per tire), nearly triple the value of forest wood waste, which was being used by Hillman. Since 1992, Hillman has continued to successfully use TDF and currently is permitted to use more than 1.46 million tires per year. Their success with TDF stirred the interest of other potential Michigan TDF users.

Since 1992, five other facilities have been issued permits to use TDF. Viking Energy of Lincoln; Viking Energy of McBain; Holnam, Inc., of Dundee; city of Wyandotte; and TES Filer City (Tondu Energy) have been issued permits to use TDF. The current permitted capacity of these five facilities is 12.86 million tires per year, bringing total TDF permitted capacity in Michigan to 14.3 million scrap tires per year.

In addition to the six permitted facilities, two test burns using TDF have been completed at other potential TDF users. Cadillac Renewable Energy and Grayling Generating Station have completed their test burns and have applied for TDF permits. Hillman has also applied to expand their permitted capacity to two million tires per year.

The issuance of permits to these three facilities would bring Michigan's annual TDF permitted capacity to over 18 million scrap tires per year. It should be noted that while the permitted capacity far exceeds the annual generation rate of scrap tires by the Michigan consumer, the actual use rate is somewhat less at this time.

For various reasons, some of these facilities are not fully using the permitted capacity. However, it is estimated that the actual current usage rate of TDF still exceeds the 7.5 to 9 million scrap tires generated in Michigan annually.

It is conceivable that other facilities that have the potential to properly use TDF may pursue permitting from the state. Flint Power Station, Lansing Board of Water and Light, Detroit Edison, and General Motors have considered TDF use in the past. These users, if permitted, could further expand the TDF market.

It should also be noted that while TDF capacity increases, Michigan has also been developing other market capacity for scrap tires. The truck tire retread industry, used tire industry, use of tire chips in engineered landfills and domestic septic fields, and crumb rubber recycling have developed to the point that Michigan's annual scrap tire market capacity could exceed 20 million tires in the coming years.

IV. Enforcement

A key to market success for scrap tires depends on the continued stringent enforcement of Part 169 and the assurance that scrap tires are properly delivered to acceptable scrap tire end-users. Illegal dumping or stockpiling is detrimental to economical scrap tire recycling and increases financial liability of the industry and health and environmental concern by the public.

V. Funding Cleanup of Existing Tire Piles

The key to cleaning up the existing scrap tire piles hinges on two issues: (1) the availability of sufficient monetary resources, and (2) the legal access to remove the tires.

The developing markets for scrap tires should have sufficient capacity to handle newly generated scrap tires as well as the scrap tires currently stockpiled around the state. Most of the developing end-user markets require scrap tires to be chipped into a unified form, and then delivered to their facility. It has become evident that most owners of these large illegal scrap tire piles do not have sufficient funds to process the tires into this marketable form. Although these site owners were generally paid to collect and transport these tires to their site, in

most cases, their business plans counted on them being paid again for the value they thought the tires would have some day in the future. This misjudgment led to many business failures, legal problems, and tire piles beyond the means of the collector to properly recycle the tires. Therefore, if these troublesome stockpiles are to be cleaned up, public funding will be required to cover the cost of processing and transporting these stockpiled tires to market. Funding is provided by the current Scrap Tire Grant Program for tires accumulated prior to passage of the 1991 statute.

It should be noted that funding alone will not cause the clean-up of these illegal stockpiles. In several cases, the owners still hold hopes of future value in these stockpiles, and in spite of court orders and financial judgements against them, many refuse to remove the tires or allow public access to assist in the proper removal by a governmental entity. Further enforcement action against these site owners, including court actions to gain access and control of the tires, will be necessary. The DEQ will continue to pursue all legal means available to gain access to these sites to facilitate their cleanup as funds are made available.

Without the public funding and access to the sites, these tire piles will remain a public concern long into the future

Additionally, some of the scrap tires in these stockpiles may be in an unmarketable condition due to dirt, other type of contaminates, or being partially burned. Funding to transport and dispose of these tires in a properly licensed landfill will still be necessary. Legislative discussions are being conducted towards increasing fees in support of the Scrap Tire Program which would address the funding issue identified in this section.

VI. Potential Air Emission Changes

Nitrogen Oxides (NOx) State Implementation Plan (SIP) Call - Power plants using tire-derived fuel may potentially be subject to state rules adopted in response to the United States Environmental Protection Agency's NOx SIP Call mandate. NOx emissions from the portion of the state covered by the NOx SIP Call rule are capped, subject to a finite budget. Variables such as size, location, level of NOx emissions, and percent of fossil-fuel heat input would determine applicability of NOx SIP Call driven control requirements. Subject sources would need to acquire NOx emission allocations in order to operate.

Ozone and Particulate Standards - The U.S. Supreme Court decision on the remanded eight-hour ozone and the fine particulate (particulate matter less than 2.5 microns in diameter [PM-2.5]) national ambient air quality standards is expected by June 2001. If the Court reverses the lower court's decision in this case, ozone and PM-2.5 nonattainment area designations will follow. This would result in more stringent pollution control requirements for sources with NOx, Volatile Organic Compound (VOC), and PM-2.5 emissions in these areas. Plants using tire-derived fuels emit PM-2.5 and NOx, as well as other air pollutants. New and modified major sources in nonattainment areas are required to control emissions at Lowest Achievable Emission Rate (LAER) levels, instead of the Best Available Control Technology (BACT) levels required in attainment areas.

VII. Importation Concerns

In an ironic twist, many Michigan citizens are now voicing concerns that Michigan may be developing too much scrap tire market capacity, in particular TDF markets. Their belief is that scrap tire markets, created beyond those needed to manage Michigan's tires (including scrap tire stockpiles), may lead to an increase of imported scrap tires from neighboring states and Canada. These citizens are primarily concerned about air emissions from TDF facilities. Also, many believe that each state should manage its own waste and not export tires to Michigan for burning.

VIII. Conclusion

The implementation and enforcement of Part 169 by the DEQ have resulted in the development of substantial scrap tire markets. This has created a viable atmosphere for the scrap tire industry, without the need for financial governmental subsidies. The market capacity for TDF and other approved scrap tire uses now exceeds the current annual generation rate and affords sufficient capacity to handle scrap tires that have been accumulated in scrap tire piles, in a reasonable timeframe. The capacity of Michigan's scrap tire processors is sufficient to process these tires. While the use of TDF, in properly permitted facilities, has proven to be environmentally sound, these facilities remain highly controversial. Permitting additional TDF capacity could hasten the potential for cleanup of troublesome tire piles, but may in fact lead to scrap tire importation from other nearby states. Therefore, considering Michigan's annual scrap tire generation, the current scrap tire stockpiles, and the concerns for scrap tire importation, subsidized development of capacity to use TDF beyond 16 million tires annually is considered unnecessary. Michigan's scrap tire markets should be allowed to continue development based on private sector economics without any additional subsidies or incentives.