# Florida Department of Environmental Protection

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FAX TRANSMITTAL LETTER

DATE: 10/29

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COMMENTS: 2 items: ① Short summary on FTR A "TALKING PIECE" IF MARY OR WHOEVER WANTS IT
② WASTE TIRE PROGRAM STATUS, INCLUDING ON LINE MARKETS

Recycled Paper

**T.A.G.**
**RESOURCE RECOVERY**

FAX COVER PAGE

Date: 9/23/93

From: Terry Gray
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To: Jon Clark

Pages (including cover page): 34

Message: Jon, attached is a copy of the F.T. summary.

TG

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**FLORIDA TIRE RECYCLING INC**

**WASTE TIRE SITE SUMMARY**

**SITE CONDITIONS:** The Florida Tire Site in St. Lucie County represents the largest accumulation of waste tires/shreds identified within the State, almost three times larger than the Polk Site. An estimated 5.7 million passenger tire equivalents (PTE) had been accumulated on the site as of March 11,1993, representing an estimated increase of almost 1.0 million PTE since June 30, 1992. The 5.7 million passenger tire equivalents is believed to represent one of the largest waste tire sites in the country. A schematic representation of site conditions as of March 11, 1993 is attached.

**ENVIRONMENTAL IMPACT:** Over 3 million PTE are present in one large shred pile that would be virtually impossible to extinguish without significant environmental consequences if it became fully inflamed. Fire lanes eight feet wide have been cut in this pile, but they are too narrow to significantly increase the probability of fire control. A fire in this shred pile would be expected to generate massive quantities of dense black smoke containing partially combusted hydrocarbons for an extended period (possibly months). Railcars on adjacent property (< 50 feet from the shred pile) would be ruptured by heat, releasing toxic chlorine gas, hydrochloric acid, and caustic into the fire plume and environment. This smoke could affect regional air quality and high population tourist areas such as Port St. Lucie and Fort Pierce. In addition, such a fire could potentially generate up to 6 million gallons of pyrolytic oil containing organic and inorganic compounds. This oil can enhance fire propagation to other segments and penetrate into the water table, potentially impacting ground water within a large area.

**ABATEMENT/REMEDIATION IMPACT:** The site represents an extremely large potential public liability. If the State obtains control of, and responsibility for, the site, abatement costs have been projected to exceed $5.7 million. In addition, there has been an historical propensity for large waste tire sites to catch fire by suspicious origins. If a fire occurs, the public cost of fire control and resulting site remediation could be much greater than projected abatement costs. The cost of fire control and initial run-off containment at a recent waste tire site containing an estimated 600,000 tires in Doe Run, Georgia has already exceeded $6,500,000, and this figure does not include future site remediation. Over $20 million has reportedly been expended on the Hagersville, Ontario tire fire site that once contained about 10 million waste tires.

**REGULATORY IMPACT:** The State cannot allow Florida Tire to continue to accumulate tires and shreds on the site in blatant violation of applicable regulations and permit requirements. In addition to public liability concerns, this practice allows Florida Tire to gain a competitive advantage versus legal operators by avoiding proper disposal costs. If this practice is allowed to continue, Florida Tire's illegal operation will either drive legal competitors out of business or force them to adopt similar illegal practices. Their continued accumulation of waste tires and shreds will realistically undermine operation and enforcement of DER's entire waste tire management program.

**RECOMMENDED ACTIONS:** Due to the above considerations, DER must establish the Florida Tire Site as a high enforcement priority target. The objective of Court enforcement actions is to force Florida Tire or allow DER to rapidly initiate the following required actions: (1) Install security measures to enforce compliance, decrease fire probability, and enhance early detection - critical components in controlling a fire at this site; (2) Install equipment and implement plans to maximize the probability of controlling the environmental consequences of a fire at the site; (3) Prevent any additional accumulation of waste tires and shreds on the site; (4) Initiate site stabilization and abatement plans to reduce the environmental consequences of a fire as rapidly as possible.

# STATE OF THE STATE ON WASTE TIRES
7-30-93

Waste tires generated annually - estimated @ 17 million

The waste tire fee was collected on 17.7 million new tires in FY 92-93. This was the first full fiscal year that off-road tires were covered under the change made in Chapter 91-112, L.O.F. This was also increased by the growth in tires-in-service and the rental car industry practice of buying new cars in Florida and selling the replaced vehicles (with tires intact) in other states. My best estimate of waste tire generation in Florida is 13,250,000 light truck, automobile and smaller units plus 750,000 heavy truck and larger units. Adjusted for weight, this is 17,000,000 passenger tire equivalents entering the waste stream for the year.

Research and demonstration projects

Research on Rubber Modified Asphalt (RMA) has been completed by FDOT. This product is expected to be in use for all friction course projects let by FDOT.

Research on the chemicals that can leach from tire shreds under a variety of conditions and on the effect of using tire shreds as a medium in a domestic septic tank drain field has been performed under a contract with the University of Florida. The quality and reliability of the data generated is in dispute.

The waste tire research budget for FY 92-93 (except for $38,000) was dedicated to mosquito control research. DACS was able to finance nine projects from these funds. These projects included methods for controlling Asian Tiger mosquitos, detecting the Eastern Equine Encephalitis (EEE) virus and for organizing neighborhoods to control container breeding mosquitos.

Other research includes:
Use of tire shreds in concrete products - Summa 1 Corp.
Use of tire shreds in reef blocks - Broward County

Markets

There were no major markets for waste tires in the state until late in 1992. As markets develop, disposal and use in landfills as well as illegal dumping will decline.

| Company | Use | Annual Est. | Status |
|---|---|---|---|
| Florida Crushed Stone | fuel | 1,000,000 | on line |
| Rinker Materials | fuel | 1,500,000 | on line |
| Georgia-Pacific (in Georgia) | fuel | 300,000 | on line |
| Medusa Cement (in Georgia) | fuel | 300,000 | on line |
| American Tire Recyclers | crumb | 600,000 | on line |
| ECO2 - Hawthorne | crumb* | 500,000 | on line |
| Florida Mining and Materials | fuel | 1,000,000 | early 94 |
| Decker Energy | fuel | 2,500,000 | March 94 |

* ECO2 manufactures crumb rubber and then uses pyrolysis to process the material not suitable for crumb.

The upcoming RMA market will be competitive. American Tire Recyclers is expanding its capacity by 1,600,000 tires per year and adding equipment needed to produce crumb rubber for this market. ECO2 is

expanding its capacity by 1,500,000 tires per year in a new plant at Alachua. Both Baker Rubber Company of Indiana and Rouse Rubber Company of Mississippi have plans for Florida plants to serve this market. Others are also planning plants to produce crumb rubber for RMA. Out of state markets and non-highway markets have the potential to consume substantial quantities of crumb rubber production capacity but can not develop until some capacity is in place and continuous supply can be guaranteed.

Other private industry projects and proposals of interest include:
Utility poles made from crumb rubber and plastic. - This would make sense where wooden poles do not last.
Fuel for cyclone boilers - Tampa Electric is considering this again.
Pyrolysis - Many companies have proposed plants. Pyrolysis works physically but the economics are rough. This may be a useful process for upgrading the material left over from crumb rubber and tire derived fuel operations.

Marketing disappointments include:
Paper industry - None of the paper mills in Florida are using tire derived fuel.
Molded rubber products industry - Very few molded rubber products are made in Florida. Rubber Products of Tampa uses crumb rubber to make floor tile; otherwise, there is little use of crumb rubber in molded products in Florida to date.
Bound rubber products industry - Crumb rubber bound by plastics can be used to manufacture mats for use in dairy barns, horse trailers, playgrounds, and other places where hard surfaces are to be avoided. The market for these products has not developed.

Law and rule changes

Chapter 93-207, L.O.F., made numerous changes that will effect waste tires. The most significant of these are:

1. The definition of "waste tire" was changed to include processed tires and used tires.
2. Waste tires stored indoors were exempt from permitting. This exemption was removed.

Until 1993, unscrupulous operators could fill warehouses with waste tires and abandon them or create large, dangerous piles of shredded tires with little interference from the State. With the changes that have been made in the law and the revisions being made in the waste tire rule, we will have better tools for combating these practices.

Abatement

Owners and operators of illegal waste tire sites are required to abate their own sites and many have done so. Many counties have used waste tire grant funds to remove waste tires from the property of victims and indigent. Some counties have abated major sites. When the Department gains possession and control of a waste tire site, a contractor is assigned the task of stabilizing or abating the site. When the contractor has completed the task, the Department seeks to recover the cost from the owner and operator. The list of abatement projects that follows shows the abatement projects conducted by the Department, the sites abated by counties that were reported as projects, and the private abatement projects which have been both reported and verified. Most private abatement projects are not reported to the Department.

Abatement activity

| Site | Est. Tires | Act. Tires | Cost | Market | Status |
|---|---|---|---|---|---|
| Abatement under Department contracts | | | | | |
| Polk City | 4,500,000 | 1,848,867 | $1,282,131 | | stabilized in shred piles |
| Danco AQ | 1,040,000 | 838,445 | 871,972 | Boiler fuel | complete |
| Import Auto Parts | 450,000 | 390,275 | 344,068 | LF construction | complete |
| Coast Auto Parts | 250,000 | 172,874 | 217,958 | Kiln fuel | complete |
| Narcoossee Road | 150,000 | | | LF construction | contractor on site |
| Abatement by counties using waste tire grant funds | | | | | |
| Clapboard Creek | 5,500 | | | | complete |
| 36th Street Acquisition | 250,000 | | | | complete |
| Port Everglades | 250,000 | | | | complete |
| RC's Tri-county | 130,000 | | | | complete |
| Ricker Road | 200,000 | 187,500 | | | complete |
| Abatement by owners or operators without waste tire account funds | | | | | |
| Environmental Research | 1,200,000 | | | Landfilled | 75% complete |
| Rainbow Industries | 60,000 | | | | complete |
| Shooting Range | 250,000 | | | | complete |
| Overland Road | 200,000 | | | | complete |
| Anello | 50,000 | | | | complete |
| Anello-Celery Avenue | 500,000 | | | | complete |
| OK Tire | 350,000 | | | Boiler fuel | complete |
| Conner Land Ltd. | 323,000 | | | | stabilized in whole tire piles |
| John Henry | 2,000 | | | | complete |
| Pt Everglades Warehouse | 150,000 | | | LF cover | complete |
| Jimmy Ragans | 25,000 | | | | complete |
| Johnson & Johnson | 20,000 | | | | complete |

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