



TNRCC INFORMATION

Waste Tire Recycling Program, Office of Permitting
September 1999

SUBJECT: Using Tire Shreds for Tire Derived Fuel (TDF)

Many people are confused about the difference between a "burning tire" which emits black smoke and smelly vapors, and the use of scrap tires as a fuel source, or tire-derived fuel (TDF). The burning of used tires for fuel by industry is a safe and economical practice that has been approved by legislatures in more than thirty states. TNRCC has examined data based on experience at Texas facilities and also finds that TDF is a safe alternate fuel in appropriate situations. Holnam Texas Cement Company of Midlothian was the first facility to burn TDF in Texas. Because Texas had very limited data on TDF use at the time Holnam applied to burn used tires as fuel, TNRCC required the company to test for virtually every major contaminant expected to be generated by burning TDF. The company conducted smokestack testing for more than 50 contaminants. This testing, combined with testing at other cement kilns in other states and an EPA study, has produced extensive data regarding the use of TDF. The 1991 EPA study, which closely examined several tire-burning industrial sites outside of Texas, concluded that "With the proper emission controls, burning tires for their fuel energy can be an environmentally sound method of disposing of a difficult waste."

The TNRCC has a strong commitment to protecting the air, land and water of the state -- part of that commitment is the enforcement of air quality standards that are higher than the federal government requires. Facilities that use tires as fuel are constantly tested and monitored, just as every industrial facility in the state is required to meet air quality standards. In almost every case so far, the air emissions have been reduced when tires were substituted for part of the fuel. In those cases where air emissions were not reduced, they were still within the state's high standard of permitted levels.

In many ways, cement kilns, because of their high heat, are ideal places to use TDF. Because the ash is incorporated into the final product, there is no waste. Other types of facilities that can successfully use TDF include pulp and paper mills, metal foundries, and utilities. Testing and monitoring requirements are specific for each facility. Each cement kiln (or other facility) must, after being permitted, pass an initial compliance test to demonstrate that it will comply with the emissions limits and operating conditions written in the permit. Following satisfactory demonstration of compliance in the initial test, most kilns are equipped with Continuous Emission Monitors (CEMs) that take over monitoring. These CEMs ensure that the kilns are operating properly and are continuously demonstrating compliance with the permitted limits and conditions.

TDF is substituted on a proportional basis for coal as a fuel. Typically, TDF replaces 10-15% of the coal used. The proportion remains constant, and the TDF/coal mixture generally burns cleaner than coal alone.