

OGDEN MARTIN SYSTEMS, INC.

P.O. BOX 0709
BRANDON, FL 33509-0709

JOSEPH R. TRESHLER
GENERAL MANAGER
MARKETING AND OPERATIONS
SOUTHEASTERN UNITED STATES

(813) 684-5688
FAX (813) 684-7964

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AN OGDEN PROJECTS
COMPANY

April 16, 1992

Mr. Claire Fancy
Department of Environmental Regulation
Division of Air Resource Management
2600 Blair Stone Road
Tallahassee, FL 32301

RECEIVED

APR 17 1992

RE: LAKE COUNTY RESOURCE RECOVERY FACILITY
TIRE COMBUSTION DEMONSTRATION PROCESS
RESPONSE TO DER SOLICITATION NUMBER 9110C

Division of Air
Resources Management

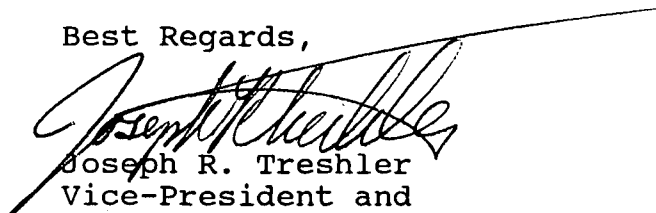
Dear Claire:

Please find attached our proposal to conduct a tire disposal demonstration at the Lake County Resource Recovery Facility. I believe Sections III and V contain the information of greatest interest to Mr. Mitchell of your Division.

Attached with this proposal is my check for \$250 (two hundred and fifty dollars) made out to the Florida Department of Environmental Regulation to cover the processing fee of our request. We are of the understanding that upon submittal of this proposal, FDER will initiate a 14 (fourteen) day public notice period concerning this demonstration project. We look forward to expeditious review and approval.

Please advise us if there is any additional information you will require to help us in achieving the department's goal.

Best Regards,


Joseph R. Treshler
Vice-President and
General Manager

JRT/ejs
Attachment

cc: T. LeDew
B. Mitchell
C. Collins, C. Dist
G. Harper, EPA
C. Shuler, WPS



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Date: 4/16/92

From (Your Name) Please Print: J.R. Trechler
Company: DEN MARTIN SYSTEMS INC
Street Address: 0 FALKENBURG RD 3RD FL
City: MPA State: FL ZIP Required: 33619

Your Phone Number (Very Important): 013-684-5688
Department/Floor No.:

To (Recipient's Name) Please Print: Mr. Claire Fancy
Company: FDRE, Div. of Air Resource Mgmt.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 2600 Blair Stone Road
City: Tallahassee, FL State: ZIP Required: 32301

Recipient's Phone Number (Very Important): 904-688-0300
Department/Floor No.:

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6 PACKAGES WEIGHT In Pounds Only YOUR DECLARED VALUE

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13 FEDEX BOX
14 FEDEX TUBE

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53 FEDEX BOX
54 FEDEX TUBE

30 ECONOMY

46 GOVT LETTER
41 GOVT PACKAGE

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80 TWO-DAY FREIGHT **

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RE: LAKE COUNTY RESOURCE RECOVERY FACILITY
TIRE COMBUSTION DEMONSTRATION PROCESS
RESPONSE TO DER SOLICITATION NUMBER 9110C

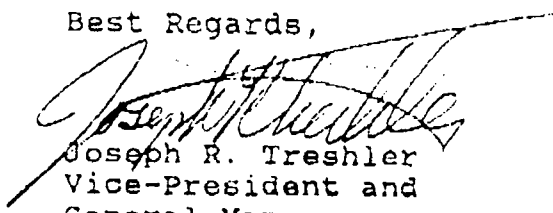
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Joseph R. Treshler
Vice-President and
General Manager

JRT/ejs
Attachment

cc: T. LaDew
B. Mitchell

Post-It™ brand fax transmittal memo 7871 # of pages = 23

To	Tom LaDew	From	J R Treshler
Co.	FDER/SWMD	Co.	Ogden Martin
Dept.	Solid Waste Dept	Phone #	813-684-5688
Fax #	904-922-6979	Fax #	813-684-7964

PROPOSAL
to the
FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
DIVISION OF AIR RESOURCES MANAGEMENT

Regarding

LAKE COUNTY TIRE DEMONSTRATION PROGRAM



Submitted by:

Ogden Martin Systems of Lake, Inc.
April 16, 1992

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SECTION I
INTRODUCTION TO
LAKE COUNTY TIRE DISPOSAL DEMONSTRATION PROGRAM

Ogden Martin Systems of Lake, Inc. responded initially on January 10, 1991, to Florida Department of Environmental Regulation [FDER] Solicitation Number 9110C Request for Proposals [RFP] to Demonstrate Innovative Technologies For the Disposal of Waste Tires. On January 29, 1992, Ogden Martin Systems of Lake, Inc. (Ogden Martin) was notified by FDER, Solid Waste Division, of the department's interest to negotiate a contract through which Ogden Martin would conduct a demonstration program at the Lake County Resource Recovery Facility for the disposal of waste tire chips from FDER-controlled waste tire sources located throughout the State. Subsequent to this notification, a series of negotiation meetings have occurred which has resulted in the generation of this proposal to FDER's Division of Air Resources Management, in conjunction with the Solid Waste Division. This proposal outlines Ogden Martin's demonstration program and the testing plan designed to document the maximum rate at which waste tire chips can be disposed of at the Lake County Resource Recovery Facility without detrimentally impacting the performance of the pollution control equipment in use at this solid waste disposal facility.

SECTION II

PURPOSE OF THE DEMONSTRATION PROGRAM

The Florida Department of Environmental Regulation (FDER) has been evaluating several different innovative methods for the disposal of the vast quantity of waste tires stockpiled throughout the State. FDER's Division of Solid Waste Management (DSWM) selected Ogden Martin's proposal, (in response to Solicitation Number 9110C), offering to demonstrate how waste tire chips could be efficiently combusted co-currently with the municipal solid waste stream being disposed of at the Facility as meriting further evaluation. The demonstration project described herein is designed to provide the technical data necessary to determine at what maximum disposal rate waste tire chips can be added to the municipal solid waste stream currently being combusted without having a negative impact on the performance of the Facility's air pollution control equipment.

At present, FDER standards allow for up to 2% of the material being fed to a municipal solid waste combustor to consist of waste tires. This concentration is considered to be the normal concentration which is present in today's municipal solid waste stream. The program outlined herein calls for demonstration of feed stream percentages as great as 10% by weight.

Utilizing the information obtained from this demonstration program, the Division of Solid Waste would be in the position to proceed with FDER's plan to enter into an ongoing contract with Ogden Martin for disposal of State-controlled waste tires at the Lake County Resource Recovery Facility in an environmentally safe and beneficial manner.

SECTION III
TEST PLAN AND DURATION

In accordance with requests from the Division of Air Resource Management [DARM], Ogden Martin recommends that the starting point for the additional analytical test program be established at a maximum feed rate of 1.1 tons per hour, which equates to 10% of the maximum Facility processing rate. In order to maximize the capabilities of the Facility to process waste tire chips, each of the Facility's two combustion units will be tested separately during the 30 (thirty) day demonstration program. Baseline data will be collected for approximately two weeks prior to the start of the combustion demonstration. To enable a meaningful demonstration program, we propose to perform comprehensive pretesting preparation during which Ogden Martin will set up and stabilize each combustion unit independently. Pretesting activities will include:

1. Demonstrating that the mixing of waste tire chips and incoming solid waste on the tipping floor is feasible and can be accomplished in the quantity required.
2. Establishing that a reasonably consistent homogeneous mix can be achieved over an extended period of time.
3. Setting up and optimizing the combustion and boiler controls to accomplish waste tire chip combustion.
4. Verifying the proper primary and secondary air split, and the secondary air distribution for each combustion unit.

5. Verifying the ability of the combustion units to operate in different control modes while burning elevated levels of waste tire chips, including:
 - o Steam flow control
 - o Oxygen control
 - o Modified oxygen control
6. Stabilizing the operation of each boiler/combustion unit.

Five days will be required for the pre-testing program of each combustion unit (ten days total). Ten days of demonstrated performance at the maximum processing rate will be available on each combustion unit to allow all DARM requested analytical work to be completed. During the testing of each combustion unit, we propose to utilize a dedicated SO₂ analyzer sampling at the economizer outlet (unabated SO₂ content) to measure the homogeneity of the MSW waste tire chip mixture. In other words, the consistency of the unabated SO₂ concentration will be utilized as a measure of mixing consistency (for item 6 above).

Section V provides the schedule of testings we contemplate as necessary and a budgetary estimate for the completion of the additional analytical work as stipulated by DARM during recent negotiation sessions. This additional analytical work will be paid for by FDER as a reimbursable cost to Ogden Martin. Ogden Martin will record and provide the results of all normally collected equipment data and analytical data as part of this developmental program.

A final report will be issued by Ogden Martin to FDER for review and approval containing all of the data collected, analysis of the testing conducted and recommendations concerning the results of the demonstration program results.

SECTION IV
MATERIAL REQUIREMENTS

It is estimated that approximately 750 (seven hundred fifty) tons of waste tire chips (4" by 4" squares) will be utilized in the completion of this demonstration program. It is our intent to allow FDER DSWM to deliver the entire material supply prior to commencement of the demonstration program. This material will be stockpiled on a limerock-stabilized lay down area directly west of the Lake County Resource Recovery Facility, on land owned by the Facility.

It is our understanding that DARM will stipulate that elevated levels of waste tire chips can only be combusted during the 30 days designated for the demonstration test program. It is our intent to process the balance of any remaining waste tire chips not utilized during the testing period at a disposal rate consistent with the results of the demonstration program, following full review and approval of this disposal option by FDER.

SECTION V

TESTING REQUIREMENTS

Available Annual Compliance Test Baseline Data

The Lake County Resource Recovery Facility completed compliance testing in accordance with Florida Department of Environmental Regulation (FDER) Permit requirements January 15, 1992. These tests included the following data for both Combustion Units 1 and 2:

<u>Parameter Tested</u>	<u>Test Method</u>
Hydrogen Chloride (HCL)	EPA Rm 26
Carbon Monoxide (CO)	EPA Rm 10
Nitrogen Oxides (NOx)	EPA Rm 7E
Sulfur Dioxide (SO ₂)	EPA Rm 6C
Particulate Matter (PM)	EPA Rm 5
Opacity (VE)	EPA Rm 9

The emission results for these compliance tests were submitted to FDER in February 1992 (OPI Report No. 408). Ogden Martin proposes to use the data from these tests as baseline information during the demonstration testing program for these parameters.

Additional Demonstration Program Specific Baseline Data

Additional baseline emission data required by DARM will be collected by an independent testing lab for Units 1 and 2 using the following test program and methods:

<u>Parameter</u>	<u>Replicates</u>	<u>Test Method</u>	<u>Test Dur. (min)</u>
Total Hydrocarbon			
(THC)	6	EPA Rm 25 A	60
Mercury (Hg)	3	EPA Rm 101 A	120
Multi Metals	3	EPA Rm 29	120
Al, As, Cd, Cr (total)			
Pb, Zn, Ba, Cu, Ni, Fe, V			
Benzene (ϕ)	3	Sw 846-0030 (VOST)	60
Dioxin/Furan			
(PCDD/PCDF) &	3	EPA Rm 23	240
Polynuclear Aromatic			
Hydrocarbon (PAH)			
Particulate Matter			
10 and 2.5	3	EPA Rm 201 A	120

This data, together with the existing annual compliance test data will demonstrate the baseline emissions for the facility.

Demonstration Program Specific Testing Data

The combustion demonstration test program will illustrate that the EPA Tier II criteria for efficient combustion are being met. During the testing program, emission concentrations of CO and THC emissions constituents specified by DARM will be monitored for a minimum of six hours in flue gas from the unit being tested.

Additionally, moisture, carbon dioxide (CO₂) and oxygen (O₂) and volumetric flow rate levels will be recorded. Benzene emissions (each boiler 3 replicates, 60 minutes/runs) will also be measured. Products of incomplete combustion (PIC) will be considered unchanged from the baseline if the THC emissions recorded during the test burn do not exceed 20 ppm corrected to 7% oxygen (dry basis). Demonstrating stable conditions will make it unnecessary to repeat trace organic tests established in the baseline conditions.

Ogden Martin, at the request of the Division of Solid Waste Management, has obtained a non-binding estimate of \$190,144.00 covering the additional analytical testing described with this section that has been requested by DARM as part of this demonstration testing program. It is our current understanding that DARM will not require the trace metal analysis work being conducted as part of the Additional Demonstration Program Specific Baseline Data to be repeated as part of the actual Demonstration Program Specific Testing Data. If FDER desires to include this additional testing \$20,000 (\$10,000 per combustion unit) should be added to the cost of the DARM requested additional analytical testing scope. The actual cost of this additional testing will be determined once the full number of test runs is confirmed as acceptable by DARM.

As previously stated, the additional analytical testing requested by DARM will be treated as a pass through cost payable to Ogden Martin by FDER in accordance with the terms and conditions of the contract to be entered into between FDER, DSWM and Ogden Martin.

SECTION VI
METHOD OF PROCESSING

FDER provided transport vehicles will be loaded with chipped waste tire material at FDER's designated waste tire site as part of a separate operation performed for FDER by others. The loaded vehicles will then proceed to the Lake County Resource Recovery Facility where they will be weighed in at the Facility scale house and then deliver the waste tire chips to the stockpile area immediately adjacent to the Facility. During testing Ogden Martin will transfer waste tire chips to the Facility's enclosed tipping for processing. A twenty four (24) hour supply of waste tire chips will be maintained within the tipping building during the period of testing.

For the purposes of this demonstration program, measured quantities of waste tire chips will be added directly to known quantities of incoming municipal solid waste, thoroughly mixed on the tipping floor and then pushed into a dedicated bay of the Facility refuse pit. The mixed feed stock will be fed directly to the specific furnace being tested by one of two overhead traveling bridge cranes equipped with orange peel type grapples. During the entire demonstration testing period, all normally monitored Facility operating parameters will be closely observed to insure that no detrimental impact on Facility emissions is occurring.

Additional air monitoring testing stipulated by DARM will be conducted by an independent test lab to further demonstrate full compliance with all environmental regulations and operating permitting requirements.

SECTION VII

PHYSICAL DESCRIPTION OF LAKE FACILITY

The Lake County Resource Recovery Facility, located on a 15-acre site in Okahumpka, Florida, has a design capacity of 528 (five hundred twenty-eight) tons per day of municipal solid waste and utilizes proprietary Martin Mass Burn Refuse Combustion Technology. The Facility has the capability of delivering approximately 12.5 megawatts (net) of the 15 megawatts (gross) produced at full load operating conditions to Florida Power Corporation for sale under a direct purchase agreement. The Facility's combustion units are equipped with dry flue gas scrubbers for the removal of SO₂ and other acid gases and fabric filter baghouses for the control of particulate matter. Additionally, the Facility is equipped with continuous emission monitoring equipment which records and maintains proper parameter performance of the combustion and air pollution control systems.

The principal components of the project are the proprietary Martin Grate System, the overhead cranes, refuse pit, the boilers, the air pollution control equipment, including continuous emissions monitoring equipment, the ash handling equipment, including ferrous separation, and the power generation system, which includes the turbine generator and switchyard equipment. The Facility is supplied with all necessary utilities.

These utilities include: on-site wells for potable industrial water systems, a septic system for sanitary waste and 3 (three) 50% capacity (each) percolation ponds for discharge of cooling water and process water. Natural gas service is provided by the City of Leesburg. Electrical interconnect is provided by Florida Power Corporation.

SECTION VIII

PROGRAM MANAGEMENT

Management and operation of the demonstration program will be provided by the operating staff of the Lake County Resource Recovery Facility in conjunction with current operating practices. Routine day-to-day coordinations attributable to the program will be conducted under the direct supervision of the Plant Superintendent. The Plant Superintendent will be responsible for all coordination with the designated FDER representatives. The Lake County Plant Superintendent will be supported by the Operations Engineering Department of Ogden Martin Systems, Inc., headquartered in Fairfield, New Jersey.

Collection of testing data requested by DARM which is not normally collected by the in-house CEM and data acquisition systems will be collected through a specifically subcontracted independent testing firm. As suggested in our recent meeting with FDER, we believe any of the following 3 (three) firms to be capable of providing these services:

- (1) Entropy Engineering,
- (2) Clean Air Engineering,
- (3) Brown and Caldwell.

The final selection of the testing company will be based on approval by FDER.

The Lake County Facility staff will be responsible for mixing waste tire feed material with as-received municipal solid waste on the tipping floor and delivering it to a dedicated bay within the refuse pit.

The Facility crane operator will be responsible for charging the combustion unit being tested with the refuse/waste tire chip mixture at the rate required to maintain full load capability. Once the refuse/waste tire chip mixture is fed into the combustion unit, the automatic control systems will maintain efficient combustion, electrical generation and residue processing. Facility personnel will closely monitor equipment performance and take all actions necessary to maintain efficient operation. Performance will be monitored and controlled from the main control room and recorded by existing equipment. Additional information will be collected by the independent testing firm to verify compliance.

The viability and safety of combusting waste tire chips at the Lake County Resource Recovery Facility will be demonstrated by analysis of the continuous emission monitoring CEM data, other facility data that is recorded during the demonstration period and the results of the analytical testing conducted by the independent testing laboratory.

SECTION IX
PROJECT SCHEDULING

Ogden Martin has tailored the testing program to include the demonstration of full load capabilities for each of the 2 (two) combustion units. Each until will be demonstrated independently during the course of the designated 30 (thirty) day demonstration program testing window. Based on the anticipated completion date of negotiations with FDER and the execution of a contract on or before April 30, 1992, we are prepared to commence testing on or about September 1, 1992.

SECTION X
RESPONSIBILITIES OF EACH PARTY

Responsibilities of Ogden Martin Systems of Lake, Inc. (Ogden Martin):

1. Provide all necessary manpower to accommodate the combustion of waste tire chips for the duration of the demonstration program.
2. Provide use and access of the Lake County Resource Recovery Facility to members of FDER staff for review prior to, during and after the demonstration program.
3. Record and provide all normally collected analytical data to FDER for review during both the baseline and demonstration runs.
4. Select an FDER approved independent testing firm to provide all additional analytical testing requested by DARM.
5. Provide a material storage area adjacent to the waste-to-energy facility on which FDER can stockpile the entire 750 (seven hundred fifty) tons of waste tire chips to be disposed of.
6. Provide a professional engineer to sign off on all testing procedures and witness the tests conducted.
7. Provide comment on any changes necessary or refinements suggested to the testing protocol provided by DARM.
8. Provide a final report, documenting the results of the demonstration program, to FDER for review and approval.

**Responsibilities of the Florida Department of Environmental
Regulation (FDER):**

1. Review and approve testing protocols for the demonstration program.
2. Witness all tests.
3. Secure authorization from the FDER Regional Office allowing Ogden Martin Systems of Lake, Inc. to stockpile the 750 (seven hundred fifty) tons of waste tire chips on a site adjacent to the Facility.
4. Delivery of 750 (seven hundred fifty) tons of waste tire chips (4" X 4") to the Lake County Resource Recovery Facility prior to the start of the demonstration program.
5. Pay Ogden Martin the tipping fee, established by contract at \$53.22 per ton, for processing the waste tire chips.
6. Reimburse Ogden Martin for the cost of providing an FDER approved independent testing firm to provide the additional analytical testing requested by DARM.
7. Provide Class I Audit for review of the testing program and certify acceptable levels of waste tire chips which can be co-combusted with the existing municipal solid waste stream.
8. Modify existing operating permits to allow combustion of waste tire chips with municipal solid waste at levels up to the mix feed rate where no detrimental effect on emissions was defined by the testing program.
9. Enter into a contract with Ogden Martin to dispose of waste tire chips on an ongoing basis for the State.