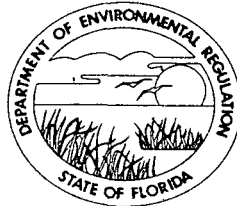


STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

September 25, 1986

Mr. Bruce Miller, Chief  
Air Programs Branch  
Air, Pesticides, and Toxics  
Management Division  
U.S. EPA - Region IV  
345 Courtland Street, N.E.  
Atlanta, Georgia 30365

Dear Mr. Miller:

Re: South Broward County and Palm Beach County Resource Projects

In response to your discussion with Ed Svec in Atlanta on September 11, 1986, we are enclosing copies of the staff analysis, hearing officer's recommended orders, and final certifications of the above referenced power plant site certifications. We feel that these documents contain all the information necessary for your review and issuance of the required PSD permits. However, if you require any additional information, please feel free to contact me.

Sincerely,

C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/ES/s



Resource Recovery Office

Room 521, 115 South Andrews Avenue  
Fort Lauderdale, Florida 33301  
(305) 357-6458

January 14, 1987

DER

JAN 15 1987

BAQM

Mr. Bruce Miller  
Air Program Branch  
Environmental Protection Agency, Region IV  
345 Courtland Street  
Atlanta, Georgia 30365

RE: South Broward Resource Recovery Project (PSD-FL-105) --  
Draft Final Determination and PSD Permit dated 12/23/86.

Dear Mr. Miller,

I am writing today to provide comments on the Florida Department of Environmental Regulation (FDER) draft Final Determination (Determination) and Permit dated December 23, 1986, for the South Broward Resource Recovery Project under the Prevention of Significant Deterioration Program.

Let me emphasize from the beginning that all comments are based upon an assumption that acid gas controls will be installed on the Project prior to start-up and operations. The purpose in writing is to provide comments which will allow the Environmental Protection Agency (EPA) to issue a valid Determination and Permit. It is not in anyone's interest for provisions of the Determination and Permit to be unenforceable by EPA or unachievable by the Project.

These comments are based upon a review of the draft by myself, consultants to the County and Signal Environmental System, Inc.. We are particularly concerned with the Final Determination and Emission Limitations for Fluorides, Sulfuric Acid Mist, Mercury and Lead, several of the Compliance Tests, the lack of an impact analysis in the Determination which assumes the installation of an acid gas control system, and references to our "application" in the General Conditions section of the Permit.

All of our comments are made based on the Project being a resource recovery facility which will burn solid wastes and recover heat and the state of the art of regulations, validated test procedures, and acid gas control equipment. Our comments are further intended to produce a Determination and Permit which will not require extensive modification or enforcement activity after construction because of unrealistic and unachievable Permit conditions.

BROWARD COUNTY BOARD OF COUNTY COMMISSIONERS

Scott I. Cowan Howard Craft Howard Forman Nicki Englander Grossman Ed Kennedy Sylvia Poitier Gerald Thompson

An Equal Opportunity Employer

We would offer the following specific comments on the draft Determination and Permit and recommendations for changes:

1. FLUORIDES. Total Fluorides are controlled under PSD not just Fluorides in a gaseous form, Hydrogen Fluoride (HF). Much of the Fluoride emissions will we believe be in the form of particulate formed by the acid gas controls. We, therefore, believe FDER took an overly simplistic approach in the Determination by assuming your instructions of 90% acid gas control some how equals a 90% reduction in total Fluorides. This is clearly not correct. FDER further presented no evidence that the proposed emission rate of 0.0018 lb/MMBtu heat input is achievable or even measurable. If FDER or EPA have test data to support this emission level than it should be included in the Determination. We know of no such data.

The importance of Fluorides for FDER and EPA apparently arises because HF is being used as a de facto surrogate for Hydrogen Chloride (HCl). This is not totally inappropriate based upon the stated intent of the Agencies to limit HCl emissions without rule making which would allow a specific HCl emission rate to be stated in the Permit. We are, however, concerned with taking this approach to an extreme since there is such a tremendous difference in both uncontrolled and controlled emission rates of HCl and HF. The fact that with Fluorides we are dealing with a trace emission, < 25 ppmv uncontrolled, which may be partially in a solid not gaseous form must also be recognized. We urge you to be very careful and not overly simplistic in setting a "not to exceed" limitation for Fluorides. Any limitations must be achievable and measurable with the installation of acid gas controls.

We would, therefore, recommend an emission rate limitation for Fluorides of 0.004 lbs/MMBtu heat input. To achieve this limit we would have to control HCl and HF at the desired rates. We would also recommend that the Compliance Test section be modified to specify only Method 13B since interferences from chlorides may create a problem were Method 13A to be used.

2. SULFURIC ACID MIST. The proposed FDER limit for Sulfuric Acid Mist ( $H_2SO_4$ ) of  $8.5 \times 10^{-4}$  lb/MMBtu heat input equals more than 98% control of a pollutant for which no validated test exists for resource recovery facilities. No information is presented in the Determination which indicates where FDER obtained this number. No test or other supporting data is cited and we know of no testing for  $H_2SO_4$  at a resource recovery facility equipped with acid gas controls. As with Fluorides, there is also a problem because particulate, Calcium Sulfate, will be formed by the acid gas controls and the test methodology does not distinguish between solid and gaseous forms.

We would, therefore, recommend that instead of separating out Sulfuric Acid Mist and Sulfur Dioxide (SO<sub>2</sub>) that a total Sulfur limitations of 0.31 lb/MMBtu heat input expressed as SO<sub>2</sub> be established. This would avoid the obvious test methodology problems. Again the desired degree of acid gas control can be assured without imposing unrealistic Permit conditions. We must have emission limits which are verifiable through validated test methods for the type of source being tested!

3. **MERCURY.** The FDER Determination emission limit of 2300g/day/unit is apparently based upon 40 CFR 60.50, Subpart E, which is the National Emission Standard for Hazardous Air Pollutants (NESHAP's) for mercury emissions from mercury ore processing facilities and mercury cell chlor-alkali plants. We believe that an analogy to these type facilities is inappropriate. No evidence is presented in the Determination to support either this analogy or proposed level of control. We do not believe it can be technically supported. We recommend an emission rate for Mercury of  $9.2 \times 10^{-4}$  lb/MMBtu heat input which is found in our application and state Conditions of Certification.

4. **LEAD.** Emissions of lead are a function of total particulate. EPA instructed FDER to reduce particulate emissions in the Determination by one-half from the levels in our application and state Conditions of Certification or from 0.03 to 0.015 grains per dry standard cubic foot corrected to 12% CO<sub>2</sub>. We believe Lead should be treated in the same manner and an emission rate of 0.0015 lb/MMBtu heat input should be imposed. The FDER "not to exceed" limitation to 0.001 lb/MMBtu heat input is not supported by material presented in the Determination.

5. **FUGITIVE EMISSIONS.** Fugitive emissions will be controlled as described in Specific Condition 1.a.(13) but a "no fugitive emission" requirement can not be met if taken literally. FDER has an appropriate fugitive emission regulation [17-2.610(3)F.A.C.] which has already been incorporated into the state Conditions of Certification. We would recommend that either the first sentence of Specific Condition 1.a.(13) be deleted or rewritten to eliminate the "no fugitives emission" requirement or incorporate by reference the state regulation.

6. **USE OF METHOD 19 FOR DETERMINING F-FACTOR.** Solid Waste is a very heterogeneous fuel which can differ with each charging of the boiler. For this reason, the industry has been moving away from the use of various sampling techniques for determining heat input which have proven to be inaccurate or unworkable. Acceptance tests on large units are now using a method which utilizes the

boiler as a calorimeter. Standard ASME test code procedures are followed. This is the methodology which will be used by the County for the acceptance of the proposed boilers. Use of this method for determining heat input for compliance with air emission limitations would be far more accurate than use of a waste sampling program and Method 19 for determination of F-Factor.

Attached are two papers on the subject from the last two ASME Solid Waste Processing Conferences. The first "Calculating Efficiency of Municipal Waste Mass Burning Energy Recovery Systems", Beckman et. al., 1984 Conference, provides a good overview of the topic. The second "An Examination Of Proposed Acceptance Testing Methods," Griggs, 1986 Conference, summarizes a review made for the Army of various test methods and their appropriateness for various heat recovery incinerators. If you or your staff have any further questions concerning the appropriateness of using a boiler calorimeter methodology for determining the heat input of waste during the compliance tests, then we would be happy to discuss this matter further.

We would recommend deletion of the reference to obtaining representative RDF (sic) samples and Method 19 in Specific Condition 1.b.(1) and 1.b.(2)m.. Heat inputs should be determined using a boiler calorimeter method. Although use of such a method is quite complicated when used for acceptance testing, a simplified method can be developed for use in emission testing. The actual test protocols would of course be subject to approval by FDER and EPA prior to testing.

7. USE OF METHOD 25. Test Method 25A should be used for determination of volatile organic compounds. Reference to Method 25 should be deleted.

#### 8. OTHER SPECIFIC CONDITIONS.

Specific Condition 3, Boiler Loading, should be changed to reflect the South Broward Project. The Condition should read "...71,875 pounds of solid waste per hour each or  $323.5 \times 10^6$  Btu per hour each."

Specific Condition 7.b., Air Pollution Control Equipment, should be changed by adding a period after the word "device" and deleting the rest of the sentence. Specific Condition 1 contains the limits which must be met for specific "acid gases" and other pollutants. This Condition is inaccurate and ambiguous as written. We would also recommend inserting at this point or as a new Specific Condition 7.c. language concerning facility operations. We would suggest the following additional language: "c. Each boiler shall be operated in accordance with Facility Operation requirements contained in the state Conditions of Certification." It can be implied that

operating requirements are the same under both permits even though emission requirements are somewhat different. We would like this to be clearly stated so there is no confusion in the future.

Specific Condition 10, Fuel, should be modified to reflect or reference in its second sentence the terms of Specific Condition 1.a. which allow use of limited amounts of distillate fuel or natural gas during start-up.

9. DETERMINATION IMPACT ANALYSIS. We believe that there is a serious flaw in the FDER Determination because the Tables indicating the impacts of the project (Tables V-1, V-2, V-3, V-5 and V-6) were not revised to reflect the BACT/Permit emission limitations. We have looked at these impacts and as we expected air quality impacts generally increased unless the level of control obtained by the acid gas control was significant. It is our recommendation that once emission limitations are agreed upon that the appropriate revisions be made to the Tables in the Determination. We have made the required calculations and would be glad to supply revised Tables to EPA for review and use in the Determination.

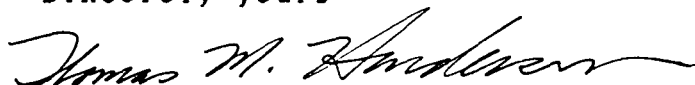
10. REFERENCES TO APPLICATION. In Part II of the Permit, General Conditions 4, there are two reference to our "application" which are not appropriate because of the significant difference between the application and the Final Determination and Permit. We would request that General Condition 4 be modified by substitution for each "application" the phrase "application, as modified by the Final Determination or Permit,".

11. CERTAIN DETERMINATION STATEMENTS. FDER has allowed certain inaccuracies and hearsay to creep into its Determination. We find the last two paragraphs on what would be page 13 and the middle two paragraphs on what would be page 14, were the pages numbered, to be particularly offensive. These paragraphs deal with statements made by Dr. Aaron Teller, tipping fees in the State of Connecticut and inaccurate hearsay as to the cost and effectiveness of scrubber and baghouse equipment. We do not believe that these paragraphs are appropriate or necessary for the Determination and ask that they be deleted.

I hope you give consideration to the comments and recommendation made above and that they and attachments to this letter will be useful in preparing the Final Determination and Permits. Once again I would like to emphasize that all of the above comments are aimed at producing a Determination and Permit for a resource recovery facility with acid gas controls that aggressively advance the current state of the art.

Finally, we would request an opportunity to review and perhaps meet once again with you or your staff to discuss the final draft of the Determination and Permit prior to its being put into final form. As you heard from my County Commissioners last month, this is a critically important project and we want to get it right.

Sincerely yours



Thomas M. Henderson  
Project Director

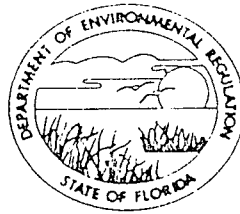
TMH/bd

Attachments: ASME Papers(2)

cc: F. T. Johnson, County Administrator  
Cliff Schulman, Greenberg Traurig Askew  
Tim Smith, Greenberg Traurig Askew  
Ken Kosky, KBN Engineering  
Ron Mills, Malcolm Pirnie, Inc.  
Bruno Dunn, Signal Environmental Systems  
Peter Ware, Waste Management, Inc.  
Steve Smallwood, FDER Air Bureau  
✓ Clair Fancy, FDER Air Bureau  
Wayne Aronson, EPA Air Program Branch  
Jewell Harper, Assistant EPA General Counsel

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY

January 26, 1987

Mr. Thomas M. Henderson  
Project Director  
Resource Recovery Office  
115 South Andrews Ave. Room 521  
Ft. Lauderdale, Florida 33301

Dear Mr. Henderson:

Enclosed is the public notice for the federal PSD permit. The EPA has verbally informed me that this notice needs to be published one time only in the legal ad section of a major newspaper in general circulation in the area of the proposed South Broward Resource Recovery Facility. As we have discussed, it would be a good idea for you to wait to publish this until I obtain a verbal communication from the EPA that the notice will satisfy all of their notice requirements. I will call you at the end of the week concerning this.

Sincerely,

C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/ks

cc: W. Aronson



Notice of Prevention of Significant Deterioration (PSD)  
Draft Permit

Name and address of applicant:

Broward County  
South Broward Resource Recovery Project, Inc.  
Room 521, 115 S. Andrews Avenue  
Ft. Lauderdale, Florida 33301

Name and address of office processing application:

Department of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32301

Broward County applied to the Florida Department of Environmental Regulation (DER) to construct an energy recovery facility near the intersection of U.S. Route 441 and State Road 84 in Broward County. The application is subject to U.S. Environmental Protection Agency (EPA) regulations for Prevention of Significant Deterioration of Air Quality (PSD), codified at 40 CFR 52.21. These regulations require that, before construction on a source of air pollution subject to PSD may begin, a permit must be obtained from EPA. Such permit can only be issued if the new construction has been determined by EPA to comply with the requirements of the PSD regulations which are described in 40 CFR 52.21. These requirements include a restriction on the incremental increases in air quality due to the new source, and application of best available control technology (BACT).

The DER has been granted delegation by EPA to carry out the PSD review of this source, except for final signature of the PSD permit. Acting under that delegation, the DER has prepared a draft permit and made a preliminary determination that the construction will comply with all applicable provisions of the PSD regulations. The degree of increment consumption that will result from the construction is:

Class I Area

<u>Pollutant</u>	<u>Annual Average</u>	<u>24-hr. Avg.</u>	<u>3-hr. Avg.</u>
Sulfur Dioxide	<50%	20%	16%
Particulate Matter	<20%	<10%	

Class II Area

<u>Pollutant</u>	<u>Annual Average</u>	<u>24-hr. Avg.</u>	<u>3-hr. Avg.</u>
Sulfur Dioxide	<5%	8%	5%
Particulate	<5%	<3%	

A copy of the administrative record of the application, including the draft PSD permit, the preliminary determination, and all materials submitted by the applicant, will be available for review for 30 days during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

Department of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32301

Southeast Florida District  
3301 Gun Club Road  
West Palm Beach, Florida 33402

Broward County Environmental  
Quality Control Board  
500 Southwest 14th Court  
Ft. Lauderdale, Florida 33315

Written comments on the preliminary determination may be submitted to:

C. H. Fancy, P.E.  
Bureau of Air Quality Management  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32301  
Telephone (904)488-1344

Further information on the application, including copies of the application, the draft permit, and a fact sheet, may be obtained from the person named above.

All comments postmarked within 30 days of the date of this notice will be considered by DER in preparing the final determination. The final determination will be sent to EPA for issuance or denial of the PSD application.

Any person may request a public hearing on the draft permit. Request must be in writing, and shall state the issues to be raised in the hearing.

Requests for a hearing must be postmarked not later than 30 days from the date of this notice and sent to:

C. H. Fancy, P.E.  
Bureau of Air Quality Management  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32301  
Telephone (904)488-1344

A special set of circumstances is applicable to this PSD permit application. A certification to construct the source was issued by the Power Plant Siting Board on June 3, 1986, under the Florida Power Plant Siting Act. At that time, DER considered such a permit to constitute a PSD permit issued under Florida's PSD regulations, which have been approved by EPA. Such approval by EPA transferred permit signature authority for PSD sources from EPA to DER. Subsequent to the issuance of that permit, EPA determined that Power Plant Site Certifications, because of certain procedural differences, do not constitute PSD permits under the DER regulations, and thus do not satisfy the requirements of the Federal Clean Air Act. In order to rectify this situation, EPA withdrew authority from DER to issue PSD permits to such sources, but delegated to DER the authority to process the PSD applications in preparation for issuance of a permit by EPA.