

INTEROFFICE MEMORANDUM

Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Victoria J. Tschinkel
FROM: Clair Fancy *Clair Fancy*
DATE: September 19, 1984
SUBJ: Approval of Attached Air Construction Permits
and BACT Determination

Attached for your approval and signature are two Air Construction Permits and a BACT determination for which the applicant is Bay County Energy Resources. The permits are for the construction of two incinerators at a proposed resource recovery facility in Bay County, Florida.

Day 90, after which the permits would be issued by default, is October 17, 1984.

The Bureau recommends your approval and signature.

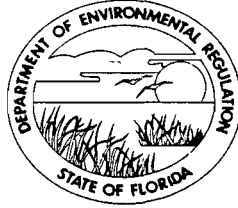
CF/pa

Attachments

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 26, 1984

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. F. A. Pollier
Project Manager
Westinghouse Waste Technology
Services Division
Post Office Box 10864
Pittsburgh, Pennsylvania 15236

Dear Mr. Pollier:

Enclosed are Permit Numbers AC 03-84703 and AC 03-84704, dated September 24, 1984, to Bay County Energy Resources, issued pursuant to Section 403, Florida Statutes.

Acceptance of these permits constitutes notice and agreement that the department will periodically review these permits for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

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

CHF/pa

Enclosure

cc: Alan F. Richter, P.E., STV Engineers, Inc.
Peter Cunningham, Hopping Boyd Green & Sams
James T. Wilburn, EPA Region IV
Robert V. Kriegel, DER Northwest District

Final Determination

Bay County Energy Resources
Resource Recovery Facility
Units No. 1 and 2
Panama City, Bay County

Permit Numbers:

AC 03-84703
AC 03-84704

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

September 18, 1984

Final Determination
Bay County Energy Resources
(AC 03-84703 and 03-84704)

Bay County Energy Resource's permit applications for the construction of two O'Connor incinerators at a new plant site located in the Industrial Park on U.S. Highway 231 has been reviewed by the Bureau of Air Quality Management. Public notice of the department's Intent to Issue was published in the Panama City News Herald on August 9, 1984. Copies of the Preliminary Determination were available for public inspection at DER's Northwest District in Pensacola, Northwest District Branch Office in Panama City and the Bureau of Air Quality Management in Tallahassee.

There were no letters of response as a result of the public notice period.

The final action of the department will be to issue the permits (AC 03-84703 and AC 03-84704) as noticed in the review process.

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

PERMITTEE:
Bay County Energy Resources
c/o Westinghouse Waste
Technology Service Division
P. O. Box 286
Madison, PA 15663

Permit Number: AC 03-84703
Date of Issue:
Expiration Date: March 31, 1987
County: Bay
Latitude/Longitude: 30° 15' 54"N/
85° 30' 08"W
Project: O'Connor Incinerator
Unit 1

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The construction of an O'Connor incinerator with 65.6 million Btu heat input per hour in Panama City, Bay County, Florida. The incinerator only burns municipal solid waste (MSW) and wood wastes. The average daily fuel consumption will be 150 tons of MSW and 89 tons of wood wastes.

Construction shall be in accordance with the attached permit application except as otherwise noted on pages 5 and 6, Specific Conditions.

Attachments:

1. Application to Construct Air Pollution Sources, DER Form 17-1.22(16), received on March 26, 1984.
2. DER's incompleteness letter to Westinghouse, dated April 16, 1984.
3. Revised Application to DER, received on May 29, 1984.
4. Additional Information to DER, received on June 18, 1984.
5. Best Available Control Technology (BACT) Determination made by DER.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84703
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84703
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84703
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- (x) Determination of Best Available Control Technology (BACT)
- (x) Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84703
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. Except as required pursuant to DER's BACT determination (attachment 5) and these specific conditions, the proposed incinerator construction shall be carried out in accordance with the statements in the revised application submitted by the permittee.

2. Allowable fuels to be fired in the incinerator are solid waste and wood waste. The maximum municipal solid waste is limited to 175 tons per day. Municipal sewage sludge may not be fired in the incinerator.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84703
Date of Issue:
Expiration Date: March 31, 1987

SPECIFIC CONDITIONS:

3. The electrostatic precipitator shall be operated during firing of the incinerator on solid waste, or solid and wood wastes. No flue gas bypass of the precipitator shall be permitted.

4. The emission limit for particulates is 0.03 gr/dscf, corrected to 12 percent CO₂. Compliance with the particulate limitation shall be demonstrated in accordance with 40 CFR 60, Appendix A, Methods 1, 2, 3, and 5.

5. Visible emissions shall not be greater than 10 percent opacity, except that no more than 20 percent opacity may be allowed for up to three minutes in any one hour. Opacity compliance shall be demonstrated in accordance with FAC Rule 17-2.700(6)(a)9., DER Method 9.

6. A continuous monitoring system to measure the opacity shall be installed, calibrated, and maintained in accordance with the provisions of Rule 17-2.710, Continuous Monitoring Requirements. The system shall be installed and operational prior to compliance testing.

7. The incinerator with the electrostatic precipitator is allowed to operate up to 8,760 hours annually.

8. The tests of particulate and visible emissions shall be accomplished at 90% to 100% of the incinerator's design capacity. The permittee shall notify DER's Northwest District 14 days prior to source testing.

9. Reasonable precautions to prevent fugitive particulate emissions during construction, such as coating or spraying roads and the construction area, shall be taken by the permittee.

10. Prior to 90 days before the expiration of this permit, a complete application for an operating permit shall be submitted to the District office. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration of this permit or receipt of an operating permit.

PERMITTEE:
Bay County Energy Resources

Permit Number: AC 03-84703
Date of Issue:
Expiration Date: March 31, 1987

SPECIFIC CONDITIONS:

Issued this 24 day of Sept. 1987

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION



VICTORIA J. TSCHINKEL, Secretary

___ pages attached.

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

PERMITTEE:
Bay County Energy Resources
c/o Westinghouse Waste
Technology Service Division
P. O. Box 286
Madison, PA 15663

Permit Number: AC 03-84704
Date of Issue:
Expiration Date: March 31, 1987
County: Bay
Latitude/Longitude: 30° 15' 54"N/
85° 30' 08"W
Project: O'Connor Incinerator
Unit 2

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The construction of an O'Connor incinerator with 65.6 million Btu heat input per hour in Panama City, Bay County, Florida. The incinerator only burns municipal solid waste (MSW) and wood wastes. The average daily fuel consumption will be 150 tons of MSW and 89 tons of wood wastes.

Construction shall be in accordance with the attached permit application except as otherwise noted on pages 5 and 6, Specific Conditions.

Attachments:

1. Application to Construct Air Pollution Sources, DER Form 17-1.22(16), received on March 26, 1984.
2. DER's incompleteness letter to Westinghouse, dated April 16, 1984.
3. Revised Application to DER, received on May 29, 1984.
4. Additional Information to DER, received on June 18, 1984.
5. Best Available Control Technology (BACT) Determination made by DER.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84704
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84704
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84704
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- (x) Determination of Best Available Control Technology (BACT)
- (x) Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84704
Date of Issue:
Expiration Date: March 31, 1987

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. Except as required pursuant to DER's BACT determination (attachment 5) and these specific conditions, the proposed incinerator construction shall be carried out in accordance with the statements in the revised application submitted by the permittee.

2. Allowable fuels to be fired in the incinerator are solid waste and wood waste. The maximum municipal solid waste is limited to 175 tons per day. Municipal sewage sludge may not be fired in the incinerator.

PERMITTEE:
Bay County Energy Resources

I. D. Number:
Permit Number: AC 03-84704
Date of Issue:
Expiration Date: March 31, 1987

SPECIFIC CONDITIONS:

3. The electrostatic precipitator shall be operated during firing of the incinerator on solid waste, or solid and wood wastes. No flue gas bypass of the precipitator shall be permitted.
4. The emission limit for particulates is 0.03 gr/dscf, corrected to 12 percent CO₂. Compliance with the particulate limitation shall be demonstrated in accordance with 40 CFR 60, Appendix A, Methods 1, 2, 3, and 5.
5. Visible emissions shall not be greater than 10 percent opacity, except that no more than 20 percent opacity may be allowed for up to three minutes in any one hour. Opacity compliance shall be demonstrated in accordance with FAC Rule 17-2.700(6)(a)9., DER Method 9.
6. A continuous monitoring system to measure the opacity shall be installed, calibrated, and maintained in accordance with the provisions of Rule 17-2.710, Continuous Monitoring Requirements. The system shall be installed and operational prior to compliance testing.
7. The incinerator with the electrostatic precipitator is allowed to operate up to 8,760 hours annually.
8. The tests of particulate and visible emissions shall be accomplished at 90% to 100% of the incinerator's design capacity. The permittee shall notify DER's Northwest District 14 days prior to source testing.
9. Reasonable precautions to prevent fugitive particulate emissions during construction, such as coating or spraying roads and the construction area, shall be taken by the permittee.
10. Prior to 90 days before the expiration of this permit, a complete application for an operating permit shall be submitted to the District office. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration of this permit or receipt of an operating permit.

PERMITTEE:
Bay County Energy Resources

Permit Number: AC 03-84704
Date of Issue:
Expiration Date: March 31, 1987

SPECIFIC CONDITIONS:

Issued this 24 day of Sept, 1984

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION



VICTORIA J. TSCHINKEL, Secretary

___ pages attached.

Best Available Control Technology (BACT) Determination
 Bay County Energy Resources
 Bay County

The applicant plans to construct a resource recovery facility at Panama City, Florida. The facility will contain two O'Connor RC 120 combustor units that in combination will fire a total of 485 tons per day of municipal solid waste (MSW) and wood waste. The wood waste will be fired as necessary to produce the steam required to maintain the designed output of electrical power. The ratio of fuels to be fired is estimated to be 300 tons per day of MSW and 178 tons per day of wood wastes.

Total Potential Air Pollutant Emissions (tons/year)

Particulate	50	25*
Sulfur Dioxide	192	40*
Nitrogen Oxides	214	40*
Carbon Monoxide	1010	100*
Lead	0.3	0.6*

* Regulated Air Pollutants - Significant Emission Rates, Florida Administrative Code Rule 17-2.500, Table 500-2.

The proposed facility is number nine on the major facility categories list of 28, Table 500-1, and therefore subject to Rule 17-2.500, Prevention of Significant Deterioration (PSD). A Best Available Control Technology (BACT) determination is required for all regulated air pollutants that are equal to or greater than the significant emission rates as listed in Table 500-2, Rule 17-2.500(5)(c). The regulated air pollutants from this facility subject to a BACT determination are: particulate matter, sulfur dioxide, nitrogen oxides, and carbon monoxide.

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
Particulates	.03 grain/dscf corrected to 12% CO ₂
CO	115.4 lb/hr
NOx	24.5 lb/hr
SO ₂	22.1 lb/hr

An electrostatic precipitator (ESP) will be installed to control the discharge of particulate matter. The ESP will also control lead, beryllium and mercury emissions. Sulfur dioxide will be limited by the inherent low sulfur content of MSW and wood wastes. Unit design and operating procedures will be the methods used to limit NOx and CO emissions.

Date of Receipt of a BACT Application:

June 4, 1984

Date of Publication in the Florida Administrative Weekly:

June 15, 1984

Review Group Members:

The resultant air pollutant emission limitations are based upon comments obtained from the New Source Review Section, Air Modeling Section and the NW District Office.

BACT Determination by DER:

Pollutant	Emission Limit
Particulates	0.03 grain/dscf, corrected to 12 percent CO ₂
Sulfur Dioxide	Fuel limited to solid waste and wood waste [1]
Nitrogen Oxides	Combustor design
Carbon Monoxide	Combustion control procedures
Mercury	3200 grams/day [2]
Visible Emissions	10 percent opacity

[1] "Solid Waste" means refuse, more than 50% of which is municipal type waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustibles, and noncombustible materials such as glass and rock. (40 CFR 60.51(a))

"Wood Waste" means bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations.

[2] If more than 2205 lb/day of municipal sewage sludge is fired, compliance with the mercury emission limit shall be demonstrated in accordance with 40 CFR 61, Subpart E.

Compliance with the particulate emission limitation will be demonstrated in accordance with 40 CFR 60, Appendix A, Methods 1, 2, 3, and 5.

A continuous monitoring system to measure the opacity of emissions will be installed, calibrated, and maintained in accordance with the provisions of Rule 17-2.710 - Continuous Monitoring Requirements. The continuous emission monitor must be installed and operational prior to compliance testing.

Compliance with the opacity limit will be demonstrated in accordance with Florida Administrative Code Rule 17-2.700(6)9., DER Method 9.

BACT Determination Rationale:

The proposed two rotary combustion units will have a charging rate of more than 50 tons per day and, therefore, be subject to the provisions of 40 CFR 60.50, Subpart E, New Source Performance Standards (NSPS). The NSPS for particulate matter emissions is a rate not to exceed 0.08 grain/dscf corrected to 12 percent CO₂. The applicant has proposed to limit the particulate emissions rate not to exceed 0.03 grain/dscf corrected to 12 percent CO₂. An electrostatic precipitator (ESP) will be installed on each unit to control particulate emissions.

The Department agrees that the use of an ESP is a control technology currently capable of achieving the 0.03 grain/dscf particulate emission limit, and is considered BACT. The baghouse is another control device capable of achieving the particulate emission limit determined as BACT. The applicant has opted to use the ESP, a control technique widely used at existing MSW incinerator plants.

The mercury emission limit is the National Emission Standard for Hazardous Air Pollutants (NESHAPS), 40 CFR 61.50, Subpart E, for municipal waste water sludge incineration plants. The proposed source would be subject to the provisions of NSPS, 40 CFR 60.150, Sewage Treatment Plants, if more than 2205 pounds per day (dry basis) municipal sewage sludge is charged. The Department has determined the emissions limit for mercury to be 3200 grams per day applicable only if more than 2205 pounds per day (dry basis) municipal sewage sludge is fired in the two rotary combustors. The applicant has stated that no sludge will be fired in the proposed incinerators; therefore, unless future conditions change the current plans, Subpart E will not apply to this facility.

The department has determined that SO₂ emissions will be limited by fuel type, that is, municipal solid waste and wood waste. Test data obtained from existing Florida MSW incinerators indicate that SO₂ emissions are less than the emissions from the combustion of distillate oil containing 0.3 percent sulfur. The applicant has stated that only Type O, I, II, and III waste will be consumed. The various waste classifications are as defined by the Incinerator Institute of America (IIA).

NSPS Subpart E, Subsection 60.53, requires the owner or operator to record the daily charging rates and hours of operation. Adding the statement "only MSW and wood waste was fired" would be sufficient to show compliance with the SO₂ emission limit determined as BACT.

During combustion of municipal solid waste, NO_x is formed in high temperature zones in and around the furnace flame by oxidation of atmospheric nitrogen and nitrogen containing compounds in the waste. The two primary variables that affect the formation of NO_x are temperature and concentration of oxygen. Techniques such as the method of fuel firing, the distribution of combustion air between overfire and underfire air, exhaust gas recirculation and decreased heat release rates have been used to reduce NO_x emissions. A few add-on control techniques such as the catalytic reduction with ammonia process and the thermal de-NO_x are still experimental, and are not considered to be demonstrated technology for the proposed project.

The two O'Connor rotary combustor units are designed to provide intimate mixing of the tumbling waste and combustion air. The need for high excess air is minimized. The amount of excess air averages about 50 percent. The low excess air requirement and high moisture content of the fuel will limit NO_x emissions. The department has determined that specified type of fuel and combustor design are BACT.

Lead emissions from the incinerator occur because this element is present in varying amounts in the solid waste. The inlet temperature of the ESP is estimated at 425-475 °F. At these temperatures the lead emissions should be in a nonvaporous state, and will be removed in the ESP along with the rest of the particulates.

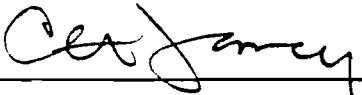
Carbon monoxide is a product of incomplete combustion where there is insufficient air. Incomplete combustion will also result in the emissions of solid carbon particulates in the form of smoke or soot and unburned and/or partially oxidized hydrocarbons. Incomplete combustion results in the loss of heat energy to the boiler. The department agrees with the applicant that BACT is the use of state-of-the-art boiler controls to insure sufficient underfire and overfire air so that the emissions of products of incomplete combustion are minimized. Since CO emissions represent lost heat energy, thereby affecting the return on investment, the department believes the financial inducement will minimize CO emissions.

The air quality impact of the proposed emissions has been analyzed. Atmospheric dispersion modeling has been completed and used in conjunction with an analysis of existing air quality to determine maximum ground-level ambient concentrations of the pollutants subject to BACT. Based on these analyses, the department has reasonable assurance that the proposed sources at the Bay County RRF, subject to the these BACT emission limitations, will not cause or contribute to a violation of any PSD increment or ambient air quality standard.

Details of the Analysis May be Obtained by Contacting:

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

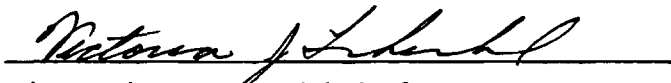
Recommended by:



C. H. Fancy, Deputy Bureau Chief

Date: 9/20/84

Approved:



Victoria J. Tschinkel, Secretary

Date: Sept 27, 1984

No. **0157027**
RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO		Mr. F. A. Pollier	
STREET AND NO.			
P.O., STATE AND ZIP CODE			
POSTAGE		\$	
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	\$	
	SPECIAL DELIVERY	\$	
	RESTRICTED DELIVERY	\$	
	OPTIONAL SERVICES	SHOW TO WHOM AND DATE DELIVERED	\$
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	\$
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		\$	
TOTAL POSTAGE AND FEES	\$		
POSTMARK OR DATE		10/1/84	

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

● **SENDER:** Complete items 1, 2, and 3.
 Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
 Show to whom and date delivered..... \$
 Show to whom, date and address of delivery..... \$
 RESTRICTED DELIVERY
 Show to whom and date delivered..... \$
 RESTRICTED DELIVERY.
 Show to whom, date, and address of delivery \$

(CONSULT POSTMASTER FOR FEES)

2. **ARTICLE ADDRESSED TO:**
 Mr. F. A. Pollier
 P. O. ox 10864
 Pittsburgh, Pennsylvania 15236

3. **ARTICLE DESCRIPTION:**

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157027	

(Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE Addressee Authorized agent

4. DATE OF DELIVERY

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

INITIALS

POSTMARK: PITTSBURGH, PA. OCT 4 1984

☆ GPO : 1979-300-459

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794



0050031

BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ROBERT V. KRIEDEL
DISTRICT MANAGER

October 24, 1988

RECEIVED

OCT 25 1988

DER-BAQM

Mr. David E. Banka
Utilities Director
City of Panama City
Post Office Box 1880
Panama City, Florida 32402

Dear Mr. Banka:

This letter is in response to your request of October 11, 1988.

The burning of sewage sludge is specifically prohibited in condition 16 of permits A003-140648 and -140649. These prohibitions are based on condition 2 of AC03-84703 and -84704. Further, Florida Administrative Code Rule 17-2.500(6)(b) requires any operating permit shall include provisions set forth in the original or amended construction permit. Thus the Northwest District of DER can not grant your request.

This letter shall be copied to Mr. John J. Zebroski, Westinghouse Electric Corporation, permittee of A003-140648 and -140649 (Authorized Representative of the Resource Recovery Facility in Bay County) with a copy of your request letter. Any action toward amendments to permits would have to be initiated by the Resource Recovery Facility. If any such action was initiated, it would be addressed to Central Air Permitting section of the Department's Bureau of Air Quality Management (originators of the referenced air construction permits).

Sincerely,

Ed K. Middleswart, P.E.
Air Program Administrator

EKM/jpl

cc: John J. Zebroski (w/enclosure)
Clair Fancy, BAQM
DER Tallahassee (w/enclosure)

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP		ACTION NO
		ACTION DUE DATE
1. TO: (NAME, OFFICE, LOCATION)	306 F	Initial
	Clair Nancy BAQM TL. T.T.	Date
2.	BITT 10/25	Initial
		Date
3.	Perry	Initial
		Date
4.	Perry	Initial
		Date

REMARKS:

RECEIVED

OCT 25 1988

DER - BAQM

INFORMATION	
<input type="checkbox"/>	Review & Return
<input type="checkbox"/>	Review & File
<input type="checkbox"/>	Initial & Forward
<input type="checkbox"/>	
DISPOSITION	
<input type="checkbox"/>	Review & Respond
<input type="checkbox"/>	Prepare Response
<input type="checkbox"/>	For My Signature
<input type="checkbox"/>	For Your Signature
<input type="checkbox"/>	Let's Discuss
<input type="checkbox"/>	Set Up Meeting
<input type="checkbox"/>	Investigate & Report
<input type="checkbox"/>	Initial & Forward
<input type="checkbox"/>	Distribute
<input type="checkbox"/>	Concurrence
<input type="checkbox"/>	For Processing
<input type="checkbox"/>	Initial & Return

FROM *Ed Middelmaat* N.W.
(Jack Treese)
Sensacola Air Program

DATE *8/24/88*
 PHONE



CITY OF PANAMA CITY

POST OFFICE BOX 1880
PANAMA CITY, FLORIDA 32402

October 11, 1988

Mr. Ed Middlestuart
Air Quality
DER District Office
160 Governmental Center
2nd Floor
Pensacola, FL 32501

Dear Mr. Middlestuart:

As per the phone conversation on 9/29/88 between Ms. Janice Moore and Mr. Moody and Mr. Middlestuart, the City of Panama City requests the approval of the Department of Environmental Regulation to burn its wastewater treatment sludges at the Bay Resource Management Center. If a permit modification is needed, the City requests that those necessary modifications be made.

At present the City's wastewater treatment sludges are primarily from treatment of domestic wastes with an industrial flow of approximately 3-5% maximum. There are no known categorical contributors. The City presently operates under an Industrial Pretreatment Program approved and audited by EPA.

Historically, the sludges have mainly been Grade I and Grade II. At present, the City is in the process of having sludge analysis done for the 129 priority pollutants as required by EPA. Hopefully, that data will be available by December 15, 1988. There is also historical data presently available on other sludge parameters if needed.

Approximate, estimated volumes of sludges generated presently are: St. Andrew WWTP - 5,382 cubic yards/year and Millville WWTP - 1,200 cubic yards/year.

Thank you for your prompt consideration of this matter.

Sincerely,

[Handwritten signature of David E. Banka]

David E. Banka
Utilities Director

DEB:sbk

cc: John E. Baxter, City Manager
James M. Southall, City Engineer
John Goin, BCM Converse

RECEIVED

OCT 13 1988

Northwest Florida

DER

Handwritten calculation: 5400 + 1200 = 6600

Handwritten calculation: 6600 (27) (40 lb) / 0.53 = 2000 (360)

Handwritten calculation in a circle: 10 Tons / day

Full Copy

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

November 20, 1987

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

Dear Mr. Miller:

Re: Implementation of North County Resource Recovery PSD Remand
The Bay County (FL) Waste-to-Energy Facility Permit
Amendment.

In response to your letter dated October 27, 1987, the Florida Department of Environmental Regulation, Bureau of Air Quality Management agrees to implement the EPA Guidance dated September 22, 1987, with respect to the air permitting of major stationary sources subject to the Federal Prevention of Significant Deterioration (PSD) rules.

Comments On Remand Decision

Part of that Guidance reaffirms that a Best Available Control Technology (BACT) determination is a case-by-case determination that takes into account the economic, energy, and environmental circumstances of each site specific situation. While the use of dry scrubbers to limit the emissions of acid gases from new Waste-to-Energy facilities is presumptively BACT, it is not necessarily BACT in each specific case. However, for new larger facilities I expect that the use of dry scrubbers will be found to be BACT in just about all cases. With respect to the modification of existing facilities, I think it would be less likely that the installation of dry scrubbers on older facilities will be found to be BACT as often as for new facilities. With respect to recently built facilities for

Mr. Bruce Miller
Page Two
November 20, 1987

which dry scrubbers were not found to be BACT, I expect that changes in allowable operating conditions which do not increase the facility's design capacity and which do not result in major increases in pollutant emissions will rarely be cases in which BACT is found to include the installation of a dry scrubber.

Bay County (FL) Waste-to-Energy Facility

With respect to this last category in which the Bay County Waste-to-Energy facility falls, the Bureau's technical staff does not believe that it would be reasonable to require "minimum acid gas control" for the proposed 76 ton per year increase in sulfur dioxide emissions for that facility. The Bay County facility, which was constructed only a few years ago, was originally designed to burn 550 tons per day municipal solid waste. The permit was issued at the request of the applicant for burning 370 tons per day municipal solid waste and 150 tons per day of wood chips, only because there was not, at that time, enough MSW available to fully fuel the Waste-to-Energy facility. The recently requested modification to the permit to allow the county to burn up to 550 tons per day of any mixture of municipal solid waste and wood chips only allows the county to utilize the original design capacity and intention of the facility. No physical or operational changes are being made that will increase the original design capacity of the facility. The Department believes that it is far better to dispose of municipal solid waste with a properly designed Waste-to-Energy facility than to put it into a landfill.

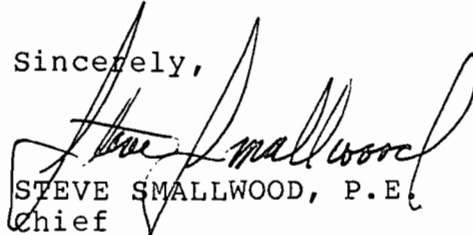
Considering the associated economic and environmental consequences, the Department does not believe that it would be reasonable to require any form of additional acid gas control for the Bay County Waste-to-Energy facility at this time. If at some time in the future, physical changes were to be made to this facility to increase its capacity, that would be another matter. Similarly if, in the future, the EPA adopts new source performance standards under Section 111(d), which would require the States to develop 111(d) plans for existing municipal waste combustors, that would be the appropriate time to determine if acid gas controls need to be required for existing facilities.

If you need additional information either on the Bureau's plans for implementing the September 22 BACT Guidance, or the particular facts and circumstances surrounding the Bay County

Mr. Bruce Miller
Page Three
November 20, 1987

Waste-to-Energy facility, Clair Fancy or I will be glad to talk with you about it.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Smallwood". The signature is written in a cursive style with a large, sweeping initial "S".

STEVE SMALLWOOD, P.E.
Chief

Bureau of Air Quality
Management

SS:jr

cc: Howard Rhodes, P.E.
Bob Kriegel
Clair Fancy, P.E.
Ed Middleswart
Randy Armstrong
Richard Harvey

Inter-Office Mail
From Ed Middleswart
Pensacola

File Copy

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION



Interoffice Memorandum

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

TO: Clair Fancy
FROM: Ed K. Middleswart *Edm 11/9*
DATE: November 9, 1987
SUBJECT: Bay County Board of Commissioners
Resource Recovery Facility
MSW Throughput

DER

NOV 12 1987

BAQM

Per our November 9 telephone conversation, I am forwarding the following in order that a timely decision can be made regarding the permitted MSW throughput rate at subject facility.

You stated that it was your understanding that the facility must make a formal request to have their maximum MSW throughput changed from 350 TPD to 510 TPD.

I mentioned that I thought the facility has already made such requests. A letter from Fred S. Pöllier, project manager, dated May 25, 1984, refers to a revised permit application and states that project economics require "increasing plant capacity to the equivalent of 510 TPD of MSW", using wood waste to fill in if the MSW is not available. A copy is attached.

Also attached is a copy of a memo from Ed Palagyi to Jack Preece dated June 29, 1984, transmitting a draft BACT determination and asking for comments. The facility description refers to "combustor units that in combination will fire a total of 510 TPD of MSW," mentioning also that wood waste would be used as a supplemental fuel when required. Thus it seems reasonable to assume that the BACT determination process three and a half years ago already considered the combustion of 510 TPD MSW as a basis for at least some of the cases investigated.

It is difficult to reconstruct what actually happened from our files and the recollection of people here at the time but it appears that when the final BACT was signed and the final permits AC03-84703/4 were issued on September 24, 1984, the provision for a 510 TPD MSW throughput as a possibility was inadvertently omitted. The BACT determination specifies a total of 485 TPD MSW and wood waste. The permits refer to a combined throughput of 300 TPD MSW and 178 TPD wood waste.

DEPARTMENT OF ENVIRONMENTAL REGULATION

**ROUTING AND
TRANSMITTAL SLIP**

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Clair Jancy

TT

- BAQM

Initial

Date

2.

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

DER

NOV 12 1987

BAQM

FROM:

*Ed Middleswain
Pensacola-Air Program*

DATE

11-10-87

PHONE

Memo to Clair Fancy
Re: Bay Co. BCC Resource Recov. Fac.
Page two
November 9, 1987

Admittedly, the communications were not all as clear as would have been desirable. But the facility's thinking at the time regarding their future requirements was evolving and they probably did not realize that having equipment inadvertently permitted at less than rated capacity was going to be such a problem in the future. In addition, there have been several management changes. However, it is clear from all the paper work that the capacity increase took place long ago and this was communicated to this Department as early as May 29, 1984 and before the BACT determinations were initially made.

EKM/eml

cc: Margaret Elligett (w/attach.)

Copied: CHF/BT
Radup Raval
Barry Andrews

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Steve Smallwood - Bureau Chief

Initial

Date

2.

*T.T.
PGM - BAQM*

Initial

Date

3.

Review CHF

Initial

Date

Initial

Date

Pradeep

REMARKS:

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

DER

NOV 12 1987

BAQM

FROM:

Cersocola

N.W.

*Ed Middleswart
District Air Engineer*

DATE

11-10-87

PHONE

*Pradeep Pally
for file*

*CHF/
BT* } *11/13
FYI*

Pradeep (H)



OCT 27 1987

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30355

4APT/APB-am

Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Implementation of North County Resource Recovery PSD Remand

Dear Mr. Smallwood:

Please find enclosed the September 22, 1987, guidance memorandum from OAQPS regarding the performance of best available control technology (BACT) determinations. The memorandum addresses the coverage, transition, public participation, enforcement, and required analyses aspects of the North County Resource Recovery PSD remand. As you are probably aware, PSD BACT determinations must take into consideration the control of any hazardous, unregulated pollutant in determining the economics and environmental benefits of control devices which may be used to achieve a BACT emissions rate for pollutants subject to review. However, this guidance is now expanded to include the official EPA position on the surrounding and supporting issues mentioned earlier.

We request that you verify that the position addressed in the enclosed memorandum is also the position of your agency in performing BACT reviews under PSD. If your understanding of the effects of the remand on agency procedures differs from that addressed in the memorandum, please address those differences and any questions or comments you may have in your response.

We are looking forward to receiving your letter prior to the New Source Review Workshop (scheduled for November 17-18, 1987), so that any outstanding issues or differences may be discussed.

Sincerely yours,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

Enclosure

DER

NOV 2 1987

BAQM

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION
INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or Other Than The Addressee		
To: _____	Locn.: _____	
To: _____	Locn.: _____	
To: _____	Locn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Jack Preece
FROM: ED Palagyi
DATE: June 29, ~~1894~~ 1984
SUBJ: Draft BACT for Bay County RR

JUL 03 1984
NORTHWEST FLORIDA
DER

Enclosed is a preliminary BACT for Bay County Energy Resources incinerators.

Please review and send me comments, recommendations, or any changes or additions you would like included in the BACT analysis.

Please, if at all possible, send me your input, before July 13, 1984.

EP/lg

BEST AVAILABLE COPY

Best Available Control Technology (BACT Determination

Bay County Energy Resources

Bay County

The applicant plans to construct a resource recovery facility at Panama City, Florida. The facility will contain two O'Connor RC 120 combustor units that in combination will fire a total of 510 tons per day of municipal solid waste (MSW). Wood waste will be fired as necessary to produce the steam required to maintain the designed output of electrical power. The ratio of fuels fired is estimated to be 300 tons per day of MSW and 178 tons per day of wood wastes.

Total Potential Air Pollutant Emissions (tons/year)

Particulate	25	25*
Sulfur Dioxide	96	40*
Nitrogen Oxides	107	40*
Carbon Monoxide	505	100*

* Regulated Air Pollutants - Significant Emission Rates Florida Administrative Code Rule 17-2.500, Table 500-2.

The proposed facility is number nine on the major facility categories list of 28, Table 500-1, and therefore subject to Rule 17-2.500(2)(d)2.b., Prevention of Significant Deterioration (PSD). A Best Available Control Technology (BACT) determination

DER



MAY 29 1984

BAQM

Westinghouse
Electric Corporation

Advanced Power Systems
Divisions

Waste Technology Services Division
Box 286
Madison Pennsylvania 15663-0286
(412) 722 5000

May 25, 1984

D E R R

Mr. Clair Fancy
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

MAY 25 1984

BAQMOM

Re: Westinghouse Air Construction Permit Application
for Bay County Resource Recovery Facility
AC 03-84703 and AC 03-84704

Dear Mr. Fancy:

Enclosed please find the following documents submitted by the Waste Technology Services Division of Westinghouse Electric Corporation in regard to the above-referenced air permit applications.

1. Responses to each item of your letter to Mr. F. S. Pollier dated April 16, 1984, in which the Department requested additional information regarding the air permit application for the proposed facility submitted by Westinghouse on March 22, 1984. (See Attachments I and II hereto.)
2. The original and four copies of a revised air construction permit application for the proposed facility, with Attachments "A" through "I".

Please note that the revised permit application includes one change in the facility design. Economic studies have determined that this project cannot be financed at the original design capacity of 350 tons per day of MSW because of the need for a larger revenue stream. This can best be accomplished by increasing plant capacity to the equivalent of 510 tons per day of MSW and supplementing the available MSW with increased quantities of wood waste. This allows higher steam production and increased electrical generation, which is our primary revenue base outside the Bay County tipping fee. We are obligated to minimize this tipping fee for the benefit of Bay County and its citizens.

Mr. Clair Fancy
May 25, 1984
Page 2

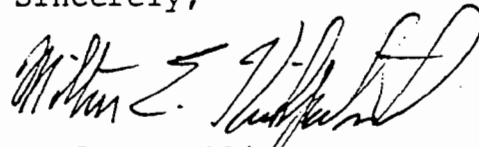
In an effort to avoid delay in the permitting process, the air permit application and attachments have been substantially revised to provide the information necessary for PSD review of the proposed facility, and to supply all information requested in your letter of April 16, 1984. Westinghouse believes this approach is in the best interests of the Bay County project, provided that the Department can review and process the revised application on an expedited schedule, as you indicated would be the case at your meeting with Peter Cunningham on April 16, 1984. The only information that remains outstanding is Attachment "J" to the revised permit application (the Air Quality Dispersion Modeling Report), which is being finalized by Southern Company Services and will be submitted in the very near future.

Any questions regarding this permit application should be addressed to:

Fred S. Pollier/J.D. Phillips
Westinghouse Electric Corporation
Waste Technology Services Division
Post Office Box 286
Madison, PA 15663-0286

Please note our change in location since the original application.

Sincerely,



FOR

Fred S. Pollier
Project Manager
Bay County Project

Enclosures

cc: Nancy Wright, Esquire (w/o enclosure)
Bob King (w/ enclosure, except Attachment "J")
Cleve Holladay (w/ Attachment "J" only)
Steve Fox (w/o enclosure)
Larry Lukin (w/o enclosure)
Robert V. Kriegel (w/o enclosure)

Mr. Clair Fancy
May 25, 1984
Page 3

bcc: J.W. Bohlig
L.P. Duffy
J.W. Fisch
G.B. Levin
R.L. Grandy
J.D. Phillips
V. Campbell
C.J. Bailey, EPR
G. Layman, Gulf
L. Burke, Bay Co.
W. May, Sanders & Thomas
W.H. Green
J.T. McClain
M.E. Kirkpatrick (2)

file

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

October 14, 1987

Mr. Les W. Burke
County Attorney
Board of County Commissioners
Bay County
Post Office Box 1818
Panama City, Florida 32402

Dear Mr. Burke:

Re: Request for Extension of Expiration Date
Permit Nos. AC 03-84703, -84704

The Department has received and reviewed your request dated September 28, 1987, for an extension of the expiration dates of the above referenced permits.

The Department will grant an extension upto January 30, 1988, specifically to enable you to obtain an operating permit. The following shall be changed or added to the permits.

Expiration Date Change

From: October 30, 1987
To: January 30, 1988

Attachment to be Added:

9. Letter from David S. Beachler dated September 28, 1987.

This letter must be attached to your construction permits, AC 03-84703 and AC 03-84704, and shall become a part of those permits.

Sincerely,

Dale Twachtmann
Secretary

DT/ks

cc: T. Moody
D. Beachler

ATTACHMENT 9

9128187
Pittsburgh, PA



Pradeep

BEST AVAILABLE COPY

Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

ENG/MG:DSB:87-112

DER

September 28, 1987

OCT 1 1987

BAQM

Mr. William Thomas
Florida Department of Environmental Regulations
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Bill,

I am writing you regarding DER Construction Permits AC-03-84703 and AC-03-84704. As you may know, we have been talking to Barry Andrews, Pradeep Raval, and Tom Moody concerning both the construction and operating permits for the Bay County Resource Management Center located in Panama City, Florida.

As a result of our conversation on Friday, September 25, 1987, we would like to request an extension (as you suggested) to the construction permit expiration date January 30, 1988. We submitted a copy of the emission compliance test report to Tom Moody and to you on July 20, 1987. The report showed that the facility is in compliance with the conditions specified in the permits. We are completing the certificate of completion of construction, DER Form 17-1.202(3) and will be submitting them shortly to the District Office in Pensacola.

As you requested, we will submit a new application form to request permission to operate the facility at its maximum design rate to burn 510 TPD MSW.

If you have any questions, please call me at (412) 636-5806.

Sincerely,

D. S. Beachler, Manager
Environmental and Quality Engineering

cc: Tom Moody, Florida DER, Pensacola
Clair Fancy, Florida DER, Tallahassee

Pradeep Raval } 10/2/87
Barry Andrews }
CHF/NT }



Interoffice Memorandum

TO: Dale Twachtmann
THRU: Howard Rhodes *HR*
FROM: Clair Fancy *CF*
DATE: October 15, 1987

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

SUBJ: Amendment to Construction Permit Nos. AC 03-84703 & 84704
Bay County Resource Recovery Facility

Attached for your approval and signature is a letter that will extend the expiration date of the given construction permits issued to the above mentioned company. This extension will enable them to apply for an operating permit.

The request is not controversial. The Bureau recommends this extension be approved.

CHF/mj

attachment

RECEIVED
OCT 15 1987
Office of the Secretary

P 274 007 663

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

U.S.G.P.O. 1985-80-784

PS Form 3800, June 1985

Sent to Les W. Burke Board of Co. Comm. Bay Co. Street and No. P.O. Box 1818	
P.O., State and ZIP Code Panama City, FL 32402	
Postage	S
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	S
Postmark or Date Mailed: 10/19/87 Permit: AC 03-84703 03-84704	

PS Form 3811, July 1983 447-845

DOMESTIC RETURN RECEIPT

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to: Les W. Burke
County Attorney
Board of County Commissioners
Bay County
P.O. Box 1818, Panama City, FL 32402

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	P 274 007 663

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee
X

6. Signature - Agent
X *SAMSON* DER

7. Date of Delivery
10-20-87 OCT 21 1987

8. Addressee's Address (ONLY if requested and fee paid)
BAQM

PM
12 Oct 87
H. Brog, PA



File Copy

Westinghouse
Electric Corporation
ENG/MG:DSB:87-115

Resource Energy Systems
Division

DER
OCT 15 1987
BAQM

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

October 12, 1987

Mr. Tom Moody
Florida Department of Environmental Resources
Northwest District
160 Government Center
Pensacola, FL 32501

Dear Tom,

Enclosed are the completed Certificates of Completion of Construction, DER Form 17-1.202(3) for DER Permits No. AC-03-84703 and AC-03-84704. Mr. Bill Thomas of the Tallahassee office stated that we should complete these forms and send them to your office to obtain the operating permits for the Bay County Resource Management Center. We will apply for a new construction permit to operate the facility at its maximum rated capacity (510 TPD MSW) within the next few weeks.

As you know, we previously sent the emission compliance test report to your office on July 20, 1987. The report verified that the facility is operating in compliance with the issued permit conditions.

If you have any questions, please call me at (412) 636-5806.

Sincerely,

D. S. Beachler, Manager
Environmental and Quality Engineering

Enclosures

cc: G. Pennington, Bay County Resource Management Center
W. Thomas, DER, Tallahassee, FL
N. Zimmerman, Bay County Attorney
J. J. Ludwig, Westinghouse

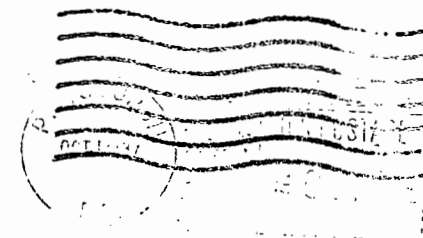
/kjd
0691MM-EN01:9

*Copied Bill Thomas file
Pradip Patel
Barry Anderson } 10/27/87*

Westinghouse
Electric Corporation

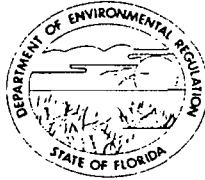
Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh PA 15221



Mr. W. Thomas
Florida Department of Environmental Resources
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301





STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC03-84703 DATE: June 30, 1987

Company Name: Bay County, Florida County: Bay

Source Identification(s): Bay Resource Management Center (O'Connor Incinerator)

Actual costs of serving pollution control purpose: \$ 1,532,000.

Operating Rates: 150-175 TPD MSW, 178 wood chips (1) Design Capacity: 255 tons per day

Expected Normal 175 tons per day MSW (1) During Compliance Test 255 tons/day

Date of Compliance Test: 6/4-5 1987 (Attach detailed test report)

Test Results:	Pollutant	Actual Discharge	Allowed Discharge
	<u>Report sent under separate cover.</u>		

Date plant placed in operation: May 1, 1987

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. SC03-091036 dated March 11, 1985.

A. Applicant:

J. J. Zebroski PROJECT MANAGER
Name of Person Signing (Type) Signature of Owner or Authorized Representative and Title

Date: 8/1/87 Telephone: 412-636-5742

B. Professional Engineer:

Charles B. Speicher, P.E. (Civil) Signature of Professional Engineer
Name of Person Signing (Type)

Westinghouse Electric Corporation Penna. Registration No. 15472-E
Company Name

Resource Energy Systems Division Date: 8/18/87
2400 Ardmore Boulevard

Cost Building (Seal)
Pittsburgh, PA 15221

(412) 636-5840 Telephone Number
Mailing Address

*This form, satisfactorily completed, submitted in conjunction with an existing application to construct permit and payment of application processing fee will be accepted in lieu of an application to operate.

**As built, if not built as indicated include process flow sketch, plot plan sketch, and updates of applicable pages of application form.

(1) Each combustor capable of burning 255 TPD MSW at 4500 Btu/lb or 175 TPD MSW and 89 TPD wood chips.



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC03-84704 DATE: June 30, 1987

Company Name: Bay County, Florida County: Bay

Source Identification(s): Bay Resource Management Center (O'Connor Incinerator)

Actual costs of serving pollution control purpose: \$ 1,532,000.

Operating Rates: 150-175 TPD MSW, 178 wood chips⁽¹⁾ Design Capacity: 255 tons per day MSW

Expected Normal 175 tons per day MSW (1) During Compliance Test 255 tons per/day MSW

Date of Compliance Test: 6/4-5 1987 (Attach detailed test report)

Test Results:	Pollutant	Actual Discharge	Allowed Discharge
	<u>Report sent under separate cover.</u>		

Date plant placed in operation: May 1, 1987

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. SC03-091036 dated March 11, 1985.

A. Applicant:
J.J. Zebroski PROJECT MANAGER
Name of Person Signing (Type) J.J. Zebroski Signature of Owner or Authorized Representative and Title

Date: 8/1/87 Telephone: 412-636-5742

B. Professional Engineer:
Charles B. Speicher, P.E. (Civil) Signature of Professional Engineer

Westinghouse Electric Corporation
Company Name
Resource Energy Systems Division
2400 Ardmore Boulevard
Cost Building
Pittsburgh, PA 15221
Mailing Address
(412) 636-5840
Telephone Number

Penna. XXXX
Florida Registration No. 15472-E
Date: 8/18/87

(Seal)

*This form, satisfactorily completed, submitted in conjunction with an existing application to construct permit and payment of application processing fee will be accepted in lieu of an application to operate.

**As built, if not built as indicated include process flow sketch, plot plan sketch, and updates of applicable pages of application form.

(1) Each combustor capable of burning 255 TPD MSW at 4500 Btu/lb or 175 TPD MSW and 89 TPD wood chips.

October 8, 1987

Mr. Les W. Burke
County Attorney
Board of County Commissioners
Bay County
P. O. Box 1818
Panama City, Florida 32402

Dear Mr. Burke:

Re: Request for Extension of Expiration Date,
Permit Nos. AC 03-84703, -84704

The Department has received and reviewed your request dated September 28, 1987, for an extension of the expiration dates of the above referenced permits.

The Department will grant an extension upto January 30, 1988, specifically to enable you to file an application with the District office for the operating permits. The following shall be changed or added to the permits.

Expiration Date Change

From: October 30, 1987
To: January 30, 1988

Attachments to be Added:

9. Letter from David S. Beachler dated September 28, 1987.

This letter must be attached to your construction permits, AC 03-84703 and AC 03-84704, and shall become a part of those permits.

Sincerely,

Dale Twachtmann
Secretary

DT/ks

cc: T. Moody

PM
Sept. 28, 1987
Pittsburg, PA



Full Copy

Westinghouse
Electric Corporation

ENG/MG:DSB:87-112

Resource Energy Systems
Division

DER

OCT 2 1987

BAQM

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

September 28, 1987

Mr. William Thomas
Florida Department of Environmental Regulations
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Bill,

I am writing you regarding DER Construction Permits AC-03-84703 and AC-03-84704. As you may know, we have been talking to Barry Andrews, Pradeep Raval, and Tom Moody concerning both the construction and operating permits for the Bay County Resource Management Center located in Panama City, Florida.

As a result of our conversation on Friday, September 25, 1987, we would like to request an extension (as you suggested) to the construction permit expiration date January 30, 1988. We submitted a copy of the emission compliance test report to Tom Moody and to you on July 20, 1987. The report showed that the facility is in compliance with the conditions specified in the permits. We are completing the certificate of completion of construction, DER Form 17-1.202(3) and will be submitting them shortly to the District Office in Pensacola.

As you requested, we will submit a new application form to request permission to operate the facility at its maximum design rate to burn 510 TPD MSW.

If you have any questions, please call me at (412) 636-5806.

Sincerely,

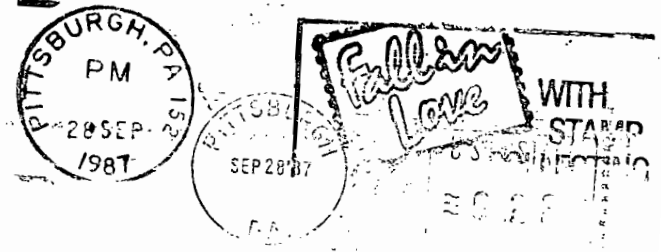
D. S. Beachler, Manager
Environmental and Quality Engineering

cc: Tom Moody, Florida DER, Pensacola
Clair Fancy, Florida DER, Tallahassee

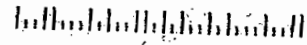
Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh PA 15221



Mr. William Thomas
Florida Department of
Environmental Regulations
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399



PM
9/28/87
Pittsburg, PA



Westinghouse
Electric Corporation

Resource Energy Systems
Division

ENG/MG:DSB:87-112

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

DER

OCT 1 1987
BAQM

September 28, 1987

Mr. William Thomas
Florida Department of Environmental Regulations
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Bill,

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As you requested, we will submit a new application form to request permission to operate the facility at its maximum design rate to burn 510 TPD MSW.

If you have any questions, please call me at (412) 636-5806.

Sincerely,

David S. Beachler

Duplicate

D. S. Beachler, Manager
Environmental and Quality Engineering

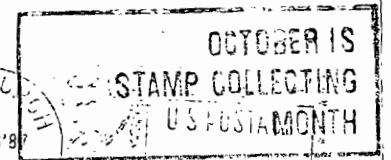
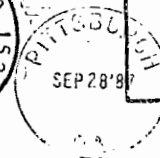
cc: Tom Moody, Florida DER, Pensacola
Clair Fancy, Florida DER, Tallahassee

*Pradeep Raval } 10/2/87 (MP)
Barry Andrews }
CHF/ST*

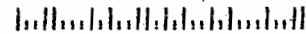
Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh PA 15221



Mr. Clair Fancy
Florida Department of
Environmental Resources
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399



'FROM BIRDWATCHING

September 30, 1987

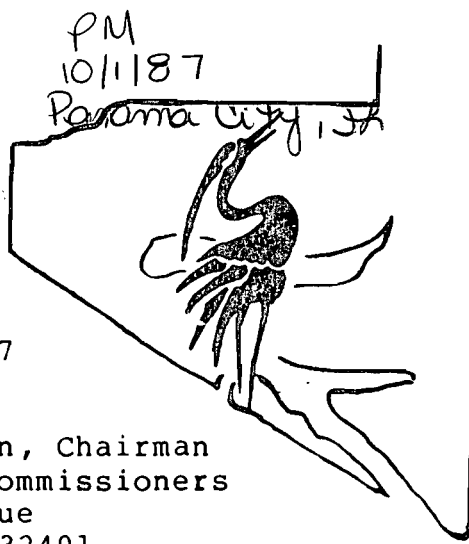
Comm. Tommy Loftin, Chairman
Board Of County Commissioners
644 Mulberry Avenue
Panama City, FL 32401

Dear Commissioner Loftin:

The Bay County Resource Recovery Facility has recently gone on line and will soon be applying for an operating permit. It is our hope that this facility can provide an environmentally safe method of solid waste disposal as well as generating electricity as a useful by-product. The Bay County Audubon Society has supported the construction of this facility as a better means of solid waste disposal than the landfill method. Indeed, one of our members, Jerry Gerde, was involved in initiating action in the early planning stages of construction of this facility. We do feel, however, that several steps must be taken to ensure that this facility does provide for the environmentally safe disposal of solid waste as intended.

1. Resource recovery facility technology is a relatively new science. Some of the potentially toxic substances in the air emissions and solid residues produced during incineration have been identified. These substances include the heavy metals, dioxins, polychlorinated biphenyls, and acid gases. To date, a comprehensive data base has not been developed to evaluate the health risks imposed by the production of these substances and to establish guidelines concerning acceptable emission levels and best available technology to reduce the amount of these substances released into the environment. State guidelines in this regard are essentially non-existent.

Therefore, we believe it is important that an analysis and an assessment of those toxic emissions, as they apply to the Bay County Resource Recovery Facility, should be of primary concern. Included in such an assessment would be recommendations on ways to reduce the levels of these emissions. One addition to the facility that we advocate is the construction of scrubbers to neutralize acid gases. Several companies are involved in performing analyses of this sort, one of which is Roy F. Weston, Inc. which completed just such an assessment for Montgomery County, Maryland.



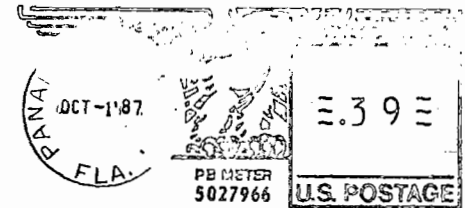
TO THE TOTAL ENVIRONMENT"

DER

OCT 2 1987

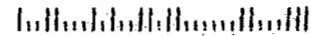
BAQM

Bay County Audubon Society
P.O. Box 1182
Panama City, Florida 32402



~~CH~~
Barry
Pudman
④
Monkey
FYI
10/21/87

Clair Sansy, Deputy Bureau Chief
Central Air Permitting Staff
Bureau Of Air Quality Management
Florida Dept. Of Environmental Reg.
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301



Comm. Tommy Loftin, Chairman
September 30, 1987
Page Two


2. The incineration of toxic substances increases the risk of contamination of the environment. To avoid that risk, a method for the convenient disposal of toxic substances from citizens and industry in Bay County should be established so that these substances do not end up at the incinerator. Five hazardous waste transfer station sites have been designated in this County; they should be constructed and put into use at once. Also, some method of adequate "front-end" separation of potentially toxic substances should be instituted at the incinerator, possibly at the level of the conveyor belts that move the waste from the storage floor to the furnaces.

3. We applaud your recent decision not to allow garbage from other areas outside the County to be transported and incinerated at our Resource Recovery Facility. Until data is available to define and identify the toxic substances produced by incineration and until scrubbers have been added to the existing facility, it would be foolish to burn additional waste.

We believe that if the above enumerated steps are taken, the Bay County Resource Recovery Facility would go a long way towards providing for the safe disposal of solid waste, can serve as a showcase and model for other municipalities contemplating such facilities, and can help ensure a clean environment for the citizens, tourists, and wildlife of this County.

Very truly yours,

BAY COUNTY AUDUBON SOCIETY

BY: 

Jeffrey D. Palgut,
Conservation Committee

JDP:kmw

cc: Mr. Lee DeHihns
Acting Regional Administrator
U. S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30308

Clair Sansy, Deputy Bureau Chief
Central Air Permitting Staff
Bureau Of Air Quality Management
Florida Dept. Of Environmental Reg.
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Mr. John B. Caylor
504 Date Palm Ct.
Panama City, FL 32407

file copy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ROBERT V. KRIEDEL
DISTRICT MANAGER

September 24, 1987

Mr. Les W. Burke
County Attorney
Board of County Commissioners
Bay County
P. O. Box 1818
Panama City, FL 32402

Dear Mr. Burke:

By this letter Permit SC03-91036 is modified to extend expiration date to January 31, 1988.

This is in accordance with a request from D.S. Beachler dated September 15, 1987. This extension will provide additional time to obtain the required operational permits (Air and Solid Waste) for the facility, which needs to be done immediately.

Increasing permitted capacity from a maximum of 350 TPDMSW to 510 TPDMSW is a separate issue that should not interfere with applying for operation permits. The operation permits can be modified in the future.

This letter shall be attached to and made a part of permit SC03-91036.

Sincerely,

[Handwritten signature of Robert V. Kriegel]
Robert V. Kriegel
District Manager

RVK/jpa

cc: Milton Kirkpatrick, PE
D.S. Beachler
Gregg Pennington
Clair Fancy, attachment ✓

*Copies: Pradeep Raval } 9/28/87 w/H
Barry Andrews } 10/1/87
CHT/BT*

DER
SEP 28 1987
BAQM

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Clair Tracy - TT - BAQM

Initial

Date

2.

Initial

Date

3.

DER

Initial

Date

4.

SEP 28 1987

Initial

Date

REMARKS:

BAQM

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Jack Pierce
Pensacola Air Section

N.W

DATE

9/25/87

PHONE

PM
16 Sept 1987
Pittsburg, PA



See Copy

Westinghouse
Electric Corporation

Resource Energy Systems
Division

ENG/MG:DSB:87-108

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

September 15, 1987

DER
SEP 21 1987
BAQM

Mr. Tom Moody
Florida Department of
Environmental Regulations
Northwest District
160 Government Center
Pensacola, FL 32501

Dear Tom,

I am writing you regarding DER Permits AC-03-84703, AC-03-84704, and SC-03-91036. As you may know, we have been working with Barry Andrews, Bill Thomas, and Pradeep Raval of DER to change the construction permit to allow the facility to burn 510 tons of MSW per day. We are also working with Jack Remus of your office to prepare additional information and provide as-built drawings for the certificate of construction completion for Permit No. SC-03-91036. Because of these efforts, we would like to request from your office an extension to the permit expiration date to January 30, 1988.

We will hopefully be able to have some guidance from EPA Region 4 shortly with regard to increasing the permitted capacity of the facility from a maximum of 350 TPD MSW to 510 TPD MSW.

If you have any questions, please call me at (412) 636-5806.

Sincerely,

D. S. Beachler, Manager
Environmental and Quality Engineering

cc: Gregg Pennington, Bay County
Barry Andrews, Florida DER
Pradeep Raval, Florida DER

/kjd
0676MM-EN01:15

Copied: Barry Andrews }
Pradeep Raval } 9/22/87 (ms)
CHF/BT }

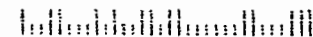


Westinghouse Electric Corporation
Resource Energy Systems Division
Cost Building
2400 Ardmore Boulevard
Pittsburgh, PA 15221



First Class

Mr. Pradeep A. Raval
Florida Department of
Environmental Regulations
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, FL 32301



F14
16 Sept. 1987
Pittsburg, PA



File Copy

Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building,
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

ENG/MG:DSB:87-108

9/23

September 15, 1987

*Bill -
I told Moody
that it was a
CAPs permit and
we had to extend
it. Clavin*

DER
SEP 21 1987
BAQM

Mr. Tom Moody
Florida Department of
Environmental Regulations
Northwest District
160 Government Center
Pensacola, FL 32501

Dear Tom,

I am writing you regarding DER Permits AC-03-84703, AC-03-84704, and SC-03-91036. As you may know, we have been working with Barry Andrews, Bill Thomas, and Pradeep Raval of DER to change the construction permit to allow the facility to burn 510 tons of MSW per day. We are also working with Jack Remus of your office to prepare additional information and provide as-built drawings for the certificate of construction completion for Permit No. SC-03-91036. Because of these efforts, we would like to request from your office an extension to the permit expiration date to January 30, 1988.

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If you have any questions, please call me at (412) 636-5806.

Sincerely,

D. S. Beachler, Manager
Environmental and Quality Engineering

cc: Gregg Pennington, Bay County
Barry Andrews, Florida DER
~~Pradeep Raval, Florida DER~~

/kjd
0676MM-EN01:15

*Copied: Barry Andrews
Pradeep Raval } 9/22/87 (mg)
CHF/BT*

CHK
BT
CHK
File

9/22

FYI
Mark,
☺

9/23

Bill -

make sure you call
him again. We have written
to EPA stating we don't want
to get into any retrofit
on this. We are awaiting
a res paise.

Clay

Clear,
Request will be
denied. This is
same principal
as Smurfit Lumbkin.
-Go for apr permit-as is.
I talked to Dave Beachley
on 9/9 & he, at that time,
agreed. -B1



Westinghouse
Electric Corporation

Resource Energy Systems
Division

ENG/MG:DSB:87-108

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

September 15, 1987

SC03-139631

Mr. Tom Moody
Florida Department of
Environmental Regulations
Northwest District
160 Government Center
Pensacola, FL 32501

*Clair
Please extend
two A.C.'s.
Emphasis need
for A.O.'s now, and
separate AC modification*

Dear Tom,

I am writing you regarding DER Permits AC-03-84703, AC-03-84704, and SC-03-91036. As you may know, we have been working with Barry Andrews, Bill Thomas, and Pradeep Raval of DER to change the construction permit to allow the facility to burn 510 tons of MSW per day. We are also working with Jack Remus of your office to prepare additional information and provide as-built drawings for the certificate of construction completion for Permit No. SC-03-91036. Because of these efforts, we would like to request from your office an extension to the permit expiration date to January 30, 1988.

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If you have any questions, please call me at (412) 636-5806.

Sincerely,

David S Beachler

D. S. Beachler, Manager
Environmental and Quality Engineering

cc: Gregg Pennington, Bay County
Barry Andrews, Florida DER
Pradeep Raval, Florida DER

/kjd
0676MM-EN01:15

RECEIVED

SEP 21 1987

Northwest Florida
DER

File Copy

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

September 9, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David S. Beachler
Environmental & Quality Engineering
Westinghouse Electric Corporation
Cost Building
2400 Ardmore Boulevard
Pittsburg, Pennsylvania 15221

Dear Mr. Beachler:

Re: Request for Increased Throughput in Bay County Resource
Recovery Facility Permit Nos. AC 03-84703, -84704;
PSD-FL-099

The Department has received and reviewed your request for an increase in MSW throughput at your facility from 350 TPD to 510 TPD (each combustor processing 255 TPD).

If the increase in throughput results in a net emission increase for any pollutant, the project would constitute a modification and would therefore require an application for a construction permit. The test data sent to us indicates net increases in NOx and SO₂ emissions.

The emissions increase of 122 TPY for SO₂ would result in a PSD review (emissions greater than significant level of 40 TPY) and would require a Best Available Control Technology (BACT) determination for SO₂.

However, the type of review required for the project depends largely on the quantities of the pollutants emitted (depends on changes made in the process also).

You do have the option of applying for an operating permit (to DER's NW District office) allowing combustion of the currently permitted MSW throughput, or you may wish to apply for the increase in MSW combustion by submitting an application for a construction permit (to the Central Air Permitting office), which could take 90 days after the receipt of a complete application to issue the permit.

Mr. David S. Beachler
Page 2
September 9, 1987

If you have any questions, please call Pradeep Raval at
(904)488-1344 or write to me at the above address.

Sincerely,



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

CF/plm

Attachment

cc: Barry Andrews
Jack Preece
Wayne Aronson
Chuck Speicher
Greg Pennington

P 274 007 699

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to Mr. D.S. Beachler Westinghouse Electric Corp.	
Street and No. 2400 Ardmore Blvd. Cost Bldg.	
P.O., State and ZIP Code Pittsburg, Pennsylvania 15221	
Postage	S
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	S
Postmark or Date Mailed: 09/10/87	
Permits: AC 03-84703 & AC 03-84704	
Federal: PSD-FL-099	

PS Form 3811, July 1983 447-845

● SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to: Mr. D.S. Beachler
Westinghouse Electric Corporation
Cost Building
2400 Ardmore Blvd.
Pittsburg, Pennsylvania 15221

4. Type of Service: <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail	Article Number: 8280 P 274 007 699
--	---------------------------------------

Always obtain signature of addressee or agent and DATE DELIVERED.

- Signature - Addressee
X
- Signature - Agent
X *Paul John*
- Date of Delivery
9-14-87
- Addressee's Address (ONLY if requested and fee paid)
*2400 ARDMORE BLVD
PGH PA 15221*

DOMESTIC RETURN RECEIPT

Judval Express
9/13/87
Pittsburg, PA

File Copy



Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

ENG/MG:DSB:87-099

September 3, 1987

DER
SEP 4 1987
BAQM

Barry Andrews
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Barry:

Per our conversation on September 3, 1987 I am enclosing a copy of a news release describing the current negotiations with Gulf and Jackson Counties for additional waste to be burned in the Bay County Resource Management Center. As I stated in my letter to Clair Fancy dated August 13, 1987 (and carbon copy to you), the county originally submitted permit applications that reflected the committed waste contracts at the time of the permit application submission.

We would like you to request a ruling from the EPA to burn the additional waste when it becomes available.

If you have any questions, please call me at (412) 636-5806.

Thank you for your assistance in this matter.

Sincerely,

D. S. Beachler, Manager
Environmental & Quality Engineering

/tlb
0676MM-3
(F0058)

cc: J. J. Ludwig
J. J. Zebroski
W. G. Collins

Copies: B. Andrews }
CH Jancy } 9/14/87



QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL NUMBER

3319358022

75

702784

DATE 9/9/87

F

00

AIRBILL NUMBER
3319358022

From (Your Name) **D. S. BEACHLER**
Your Phone Number (Very Important) **(412) 636-5806**

Company **WESTINGHOUSE/RESOURCE ENERGY**
Department/Floor No.

Street Address **2400 ARDMORE BLVD COST BLDG**

City **PITTSBURGH** State **PA** ZIP Required For Correct Invoicing **15221**

To (Recipient's Name) **Barry Andrews**
Recipient's Phone Number (Very Important)

Company **Florida Dept. of Environmental Resources**
Department/Floor No.

Exact Street Address (Use of P.O. Boxes or P.O. Zip Codes Will Delay Delivery And Result in Extra Charge.)
Twin Towers Office Bldg, 2600 Blair Stone Rd.

City **Tallahassee** State **FL** ZIP Street Address Zip Required **32301**

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)
BRN500

HOLD FOR PICK-UP AT THIS FEDERAL EXPRESS LOCATION:
Street Address (See Service Guide or Call 800-238-5355)

PAYMENT Bill Sender Bill Recipient's FedEx Acct. No. Bill 3rd Party FedEx Acct. No. Bill Credit Card

Cash

Federal Express Use
Base Charges

City State

Declared Value Charge

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1 **PRIORITY 1** Overnight Delivery Using Your Packaging
 OVERNIGHT LETTER* (Our Packaging) 9 1/2" x 12 1/2"

2 Courier-Pak Overnight Envelope* 12" x 15 1/2"

3 Overnight Box A 12 1/4" x 17 1/4" x 3"

4 Overnight Tube B 38" x 6" x 6"

* Declared Value Limit \$100.

5 **STANDARD AIR** Delivery not later than second business day

DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED

1 **HOLD FOR PICK-UP** (File in Section H at right)

2 **DELIVER WEEKDAY**

3 **DELIVER SATURDAY** (Extra charge)

4 **DANGEROUS GOODS** (P, 1 and Standard Air Packages only. Extra charge)

5 **CONSTANT SURVEILLANCE SERVICE (CSS)** (Extra charge) (Do Not Complete Section 5)

6 **DRY ICE** Lbs.

7 **OTHER SPECIAL SERVICE**

8

9 **SATURDAY PICK-UP** (Extra charge)

10

PACKAGE WEIGHT YOUR DECLARED VALUE OVER SIZE

PACKAGES	WEIGHT	YOUR DECLARED VALUE	OVER SIZE
	LBS		
	LBS		
	LBS		
	LBS		
Total	Total	Total	

Received At
1 Regular Stop
2 On-Call Stop
3 Drop Box 4 B.S.C. 5 Station

Federal Express Corp. Employee No.

Date/Time For Federal Express Use

ZIP * Zip Code of Street Address Required

Emp. No. Date

Cash Received
 Return Shipment
 Third Party Chg. To Del. Chg. To Hold

Street Address

City State Zip

Received By: **X**

Date/Time Received FedEx Employee Number

Total Charges

5 Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

PART #106001
REVISION DATE 10/86
PRINTED U.S.A. GBFE

RECIPIENT'S COPY

AUG 13 1987



Westinghouse Public Relations

Westinghouse Electric Corporation
Westinghouse Building, Gateway Center
Pittsburgh, Pennsylvania 15222

Contact: Kit Newton
Telephone: (412) 642-3348

For Use: Immediate

OUT-OF-COUNTY GARBAGE EYED FOR BAY COUNTY RESOURCE RECOVERY PLANT

PANAMA CITY, Fla., Aug. 12 -- Westinghouse Electric Corporation is looking to Florida's Gulf and Jackson Counties for up to 160 tons per day of supplemental garbage to fuel the Bay Resource Management Center here.

The plant is capable of burning 510 tons of Bay County municipal solid waste per day to fuel a 12-megawatt power plant. Westinghouse, which operates the facility, presently processes about 310 tons of Bay County garbage each day. About 200 tons of wood waste is burned daily as a supplemental fuel.

"Our goal is to eliminate the use of wood waste," said John Zebroski, Westinghouse project manager. "Until the plant's entire waste capacity can be met from within Bay County, we hope to contract with nearby Gulf and Jackson Counties to each supply 80 tons of municipal solid waste daily," he said.

Under the corporation's plan, garbage from both counties would be compacted and brought to the plant by truck and/or rail.

-more-

Elimination of the use of wood waste at the plant would have positive benefits to Bay County and its residents, Mr. Zebroski said.

"First, traffic in and out of the plant would be reduced. About 15 truckloads of wood waste now arrive and leave the plant each day. Compacted garbage brought to the plant from outside the county would reduce that traffic by half. Rail transportation would reduce the traffic even further."

The corporation also estimates that processing out-of-county wastes could lower "tipping fees" at the plant -- the prices garbage haulers pay to unload their cargo at the facility -- by between \$3 and \$4 per ton. "That would mean savings to Bay County residents on their garbage collection bills beginning in 1988," Mr. Zebroski said.

##F43-67##

14 Aug 87
Pittsburg, PA



Westinghouse
Electric Corporation
ENG/MG:DSB:87-089

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

August 13, 1987

Clair Fancy
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

State Permit: AC 03-84703 & 84704
P.S.D. #: PSD-FL-103

Dear Clair:

We have been talking recently with Barry Andrews and Bill Thomas of the Florida DER concerning the Bay County Resource Recovery Facility. Permit applications were submitted to your office in March 1984 to obtain permission to construct a resource recovery facility consisting of 2 combustor/boiler trains capable of processing 255 TPD MSW each (510 TPD total). The original application stated that the likely total waste to be processed at the facility would be 300 to 350 TPD MSW and 135 to 178 TPD wood waste. These values were based on the guaranteed amount of MSW that was available in Bay County and from the local waste haulers. The facility maximum rated capacity (MCR) is 510 TPD MSW and it appears that additional MSW is now available from adjacent counties so that this facility could now operate at the maximum rate.

The emission compliance test report and a separate emission factor report for SO₂, NO_x, HCl, and CO emissions were mailed in late July to Tom Moody and Bill Thomas. These reports indicate that the facility is operating in compliance with the permit conditions at its maximum rated capacity.

DER
AUG 17 1987
BAQM

Florida DER permit numbers AC 03-84703 and AC 03-84704 state that the facility can process a maximum of 350 TPD MSW along with 135 TPD wood waste. The County had hoped to be permitted to operate the facility at the maximum capacity once the waste was available. Now, because of the recent availability of MSW, the facility would like to obtain permission to burn 510 TPD MSW and operate the facility continuously at this rate.

If you have any questions, please call me at (412) 636-5806.

Sincerely,



David S. Beachler, Manager
Environmental & Quality Engineering

/tlb
0675MM-087E-2

cc: Barry Andrews, Florida DER
Bill Thomas, Florida DER
Tom Moody, Florida DER Pensacola Office
Greg Pennington, Bay County Resource Recovery Facility

Copied: CHFBT

Wayne Aronson-EPA }
Roderick Raval } 8/17/87 (ms)
Barry Andrews }

PM
14 Aug 87
Pittsburg, PA

file copy



Westinghouse
Electric Corporation
ENG/MG:DSB:87-089

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

DER

AUG 18 1987

BAQM

August 13, 1987

Clair Fancy
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

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Sincerely,



David S. Beachler, Manager
Environmental & Quality Engineering

/tlb
0675MM-087E-2

cc: Barry Andrews, Florida DER
Bill Thomas, Florida DER
Tom Moody, Florida DER Pensacola Office
Greg Pennington, Bay County Resource Recovery Facility

Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh PA 15221



Clair Fancy
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301



DM
14 Aug 87
Pittsburg, PA



file

Westinghouse
Electric Corporation
ENG/MG:DSB:87-089

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

August 13, 1987

Clair Fancy
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

State Permit: AC 03-84703 & 84704
PSD.#: PSD-FL-103

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DER
AUG 17 1987
BAQM

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Sincerely,

David S. Beachler, Manager
Environmental & Quality Engineering

/tlb
0675MM-087E-2

- cc: Barry Andrews, Florida DER
- Bill Thomas, Florida DER
- Tom Moody, Florida DER Pensacola Office
- Greg Pennington, Bay County Resource Recovery Facility

Copied: CHFIAT

Wayne Aronson-EPA
Pradeep Raval
Barry Andrews

} 8/17/87 (mr)

Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh PA 15221

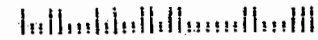


AUG 14 87

PA

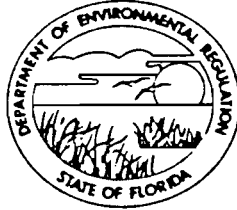


Barry Andrews
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ROBERT V. KRIEGEL
DISTRICT MANAGER

August 11, 1987

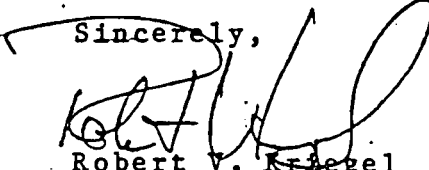
Honorable Ron Wood
Chairman, Calhoun County Board
of County Commissioners
425 East Central Avenue
Blountstown, Florida 32424

Dear Chairman Wood:

Your Central Landfill does not meet the State's new requirements for the operation of landfills and we have executed an agreement with the county outlining corrective actions and a schedule. We are concerned about your present status and the likelihood that you will not be able to meet these standards in the near future. However, there are alternatives. In example, Bay County's new Resource Recovery Facility (a refuse to energy plant) may be able to handle up to 510 tons per day of Municipal Solid Waste (MSW). At present, Bay County is providing only about 325 tons per day and thus could handle an additional 185 tons per day in out-of-county waste. The County is actively seeking additional waste sources; I understand the County estimates a tipping fee ranging from \$22 to \$28 per ton at present. Similarly, Timber Energy is examining the availability of MSW for a facility they are considering.

We suggest that you seriously consider any available alternatives. Some may be of mutual benefit to both parties, considering the rising costs of landfill operations. Your having given these alternatives serious consideration may also help you in the event the Department or other parties have to institute further enforcement proceedings against your non-complying solid waste operations.

Sincerely,


Robert V. Kriegel
District Manager

RVK/rkf

cc: ~~Honorable Ron Wood~~



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY DER
WASHINGTON, D.C. 20460

AUG 17 1987

AUG 6 1987

BAQM

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Dear Sir or Madam:

The Office of Solid Waste and Emergency Response, Office of Air and Radiation, and Office of Research and Development recently concluded their integrated study of air emissions from municipal waste combustion facilities. The study evaluated emissions of more than 15 pollutants, effects of those emissions on health and the environment, and control techniques capable of controlling those emissions.

A report discussing the findings of the study was submitted to Congress on July 1. I have enclosed a copy for your reference. A full set of the technical background documents supporting the study have been provided to the Air Management Division in your EPA Regional Office. Because of their size and our limited ability to reproduce them, we are unable to forward a full set of these documents to you. Should you be unable to locate copies through the Regional Office, please let me know.

The study is available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA, 22161 (phone 703-487-4650). I have enclosed a list of NTIS numbers and prices for the documents. The prices listed include sending the documents by fourth-class mail, which may take two to three weeks. For an additional charge, NTIS will send documents by first-class mail, DHL courier, or, if the recipient has an account, by Federal Express.

Should you have any questions about the report, you may call Stephen Greene of my staff at (202) 382-4664.

Sincerely,

A handwritten signature in cursive script that reads "Joseph S. Carra".

Joseph S. Carra
Acting Director
Waste Management Division

Enclosures

DEPARTMENT OF ENVIRONMENTAL REGULATION


ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)	Initial
	Date
2.	Initial
	Date
3.	Initial
	Date
4.	Initial
	Date

REMARKS:

 Audubon Society
 March testing. Results
 of testing.

Jeffrey Palgut
 247 N. Highway 22A
 PC, FL 32404

formal EPA policy
 risk assessment

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

DATE

PHONE

MUNICIPAL WASTE COMBUSTION STUDY

DOCUMENT NUMBERS AND PRICES

TITLE	EPA NUMBER	NTIS NUMBER	PRICE
Municipal Waste Combustion Study: <u>Report to Congress</u>	EPA/530-SW-87-021A	PB87-206074	\$18.95
Municipal Waste Combustion Study: Emissions Data Base for Municipal Waste Combustors	EPA/530-SW-87-021B	PB87-206082	\$30.95
Municipal Waste Combustion Study: Combustion Control of Organic Emissions	EPA/530-SW-87-021C	PB87-206090	\$24.95
Municipal Waste Combustion Study: Flue Gas Cleaning Technology	EPA/530-SW-87-021D	PB87-206108	\$13.95
Municipal Waste Combustion Study: Costs of Flue Gas Cleaning Technologies	EPA/530-SW-87-021E	PB87-206116	\$18.95
Municipal Waste Combustion Study: Sampling and Analysis	EPA/530-SW-87-021F	PB87-206124	\$18.95
<i>for Audubon Society</i> Municipal Waste Combustion Study: Assessment of Health Risks Associated with Exposure to Municipal Waste Combustion Emissions	EPA/530-SW-87-021G	(not yet available)	
Municipal Waste Combustion Study: Characterization of the Municipal Waste Combustion Industry	EPA/530-SW-87-021H	PB87-206140	\$13.95
Municipal Waste Combustion Study: Recycling of Solid Waste	EPA/530-SW-87-021I	PB87-206157	\$13.95

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP		ACTION NO	
		ACTION DUE DATE	
1. TO: (NAME, OFFICE, LOCATION)		Initial	
	Patty	Date	
2.		Initial	
		Date	
3.		Initial	
		Date	
4.		Initial	
		Date	

REMARKS:

I got a hold of Palget and told him we would send them the permit and I would meet with Audubon Society if they requested

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

more
print slip
& memo

Jeffrey Palget
904/763-4611

Jacqui Koll
904/785-0535

at least
decision
about
having
hearing?



File Copy

Westinghouse
Electric Corporation
ENG/MG:DSB:87-064

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

July 21, 1987

DER

AUG 3 1987

BAQM

Mr. Tom Moody
Florida Department of Environmental Resources
Northwest District
160 Government Center
Pensacola, FL 32501

Dear Mr. Moody:

Enclosed are two copies of the Emission Compliance Test Report for the Bay County Resource Recovery Facility in Panama City, Florida. The tests were conducted on May 12-14 and June 4-5, 1987. Mr. Bert Lent of the Panama City office of the DER observed some of the tests conducted during this test program. The results of the tests show that the facility operated in compliance with the emission limits given in Permits AC-03-84703 and AC-0384704.

Tests were conducted while the combustor-boilers were operating at full-load conditions, processing MSW at a rate of approximately 255 tpd per train (510 tpd total).

In addition, tests were conducted during April and May to measure HC1, SO₂ and NO_x concentration levels. These emission levels are given in the Bay County Emission Factors Report that is also enclosed.

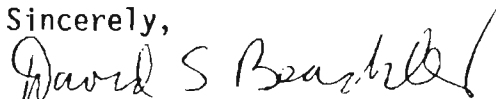
We would like to request that you issue an operating permit to allow the Bay County Facility to operate at a rate of 510 tpd MSW. We have talked to Mr. William Thomas of the Florida DER, Tallahassee office, concerning the request to operate the facility at the rated plant capacity, and are enclosing a copy of both reports for his information.

July 20, 1987

We will be sending the Certificate of Completion along with the appropriate fees to your office as soon as the Bay County officials sign these forms.

If you have any questions, or need additional information, please call me at (412)636-5806.

Sincerely,



David S. Beachler, Manager
Environmental & Quality Engineering

0650MM-087E:23

cc: William Thomas, Florida DER
Nevin J. Zimmerman, Atty., Bay County Commissioners
John Zebroski, W/RESD

EMISSION FACTORS FOR THE BAY COUNTY
RESOURCE RECOVERY FACILITY

Introduction

Emission testing was conducted at the Bay County Resource Recovery Facility in Panama City Florida during April thru June, 1987. The purpose of the tests was to determine the efficiency of the electrostatic precipitator to demonstrate compliance of the facility with the permit conditions as stated by the Florida DER, and to determine the concentration of various gaseous constituents in the flue gas, namely SO₂, NO_x and HCl. Acceptance Testing was also conducted to confirm the plant capacity electrical generation and the combustible content of the residue produced while operating the plant at the maximum rated capacity -- 510 TPD municipal solid waste that has a heating value of 4500 Btu/lb.

The emission compliance test report that documents compliance with the Florida DER requirements is submitted as a separate report. This report contains the stack gas concentration levels of SO₂, NO_x, and HCl and the corresponding predicted emission factors for operating the Bay County Facility at a rate of 510 TPD MSW, based on a waste heating value of 4500 Btu/lb.

Test Results

SO₂ Concentration

SO₂ concentration was determined using US EPA Reference Method 8. A gas sample was extracted from the stack and pulled through a sampling train consisting of a heated filter and a series of impingers. The first impinger contained a solution of 80% isopropyl alcohol (IPA) used to absorb sulfuric acid mist (H₂SO₄). The second and third impingers contained 3% H₂O₂ used to collect sulfur dioxide (SO₂). The impingers were analyzed by titrating with methyl orange to determine the SO₂ concentration levels as shown in Table 1.

The average SO₂ concentration was 187 ppm_{WV}.

TABLE 1
SO₂ CONCENTRATIONS

Date	Combustor/Boiler (unit)	SO ₂ Concentration (ppm _{dv})
4/27	1	113
4/27	1	90
4/29	1	213
4/29	1	172
4/30	1	348
		Ave. 187

NOx Concentration

NOx emissions were determined by using a continuous emission monitor (CEM) and by a manual wet test method -- EPA Reference Method 7. Method 7 was used to verify the CEM emission data. In Method 7, a gas sample is extracted from the stack gas into an evacuated flask. The sample is then analyzed in the laboratory using a spectrophotometer. A Theta Sensor CEM was used to measure NOx emissions by using the chemiluminescence principle. NOx emission data was recorded onto a six-pen YEW strip chart recorder.

Table 2 contains the NOx emissions measured simultaneously by both EPA Method 7 and the CEM on the stack of Unit 2. The average NOx concentrations were 148 ppm_{dv} using Method 7 and 171 ppm_{dv} using the CEM.

Table 2
 NOx Emission Tests Conducted on 5/20 and 5/21
 on Combustor/Boiler Train #2

<u>Date</u>	<u>Time</u>	EPA Method 7	
		<u>ppm</u>	<u>CEM</u>
		<u>NOx</u>	<u>NOx</u>
		<u>ppm</u>	<u>ppm_{dv}</u>
5/20	22252	166.1	165
5/20	2254	185.6	165
5/20	2352	136.1	155
5/20	2353	191.6	155
5/21	0052	92.5	155
5/21	0053	121.9	155
5/21	0152	84.8	140
5/21	0153	148.0	140
5/21	0249	166.6	155
5/21	0251	179.5	155
5/21	0351	191.3	210
5/21	0352	128.5	210
5/21	0451	139.6	220
5/21	0452	141.0	220
Ave.		148	171

HCl Concentration

HCl concentrations were determined using NIOSH Method 112B. Flue gas was extracted from the stack using an EPA Method 5 sampling train. The first impinger contains a 0.1 N solution of NaOH that absorbs HCl from the gas sample. The impinger solution is then titrated with mercuric nitrate to determine the HCl concentration. Table 3 contains the results of the tests used to measure HCl emissions.

Table 3
HCl Concentrations

Date	Combustor/Boiler (unit)	HCl Concentration (ppm _{dV})
4/22	1	591
4/22	1	432
4/23	2	857
4/23	2	857
4/23	2	703
4/26	1	820
4/26	1	422
4/26	1	677
	Ave.	648

CO Concentration

Carbon monoxide emissions were measured by an in-situ Westinghouse NDIR CO analyzer. The monitor is located in the ductwork between the ESP outlet and ID fan. The emissions measured by the instrument were generally below 100 ppm_{wv} except for brief excursions that lasted from a few minutes to as long as 10 minutes in duration. Figures 1 through 7 show the printout for CO emissions during the emission acceptance test period conducted in early June 1987.

Emission Factors

The proposed emission factors for various pollutants, contained in Table 4, were submitted to the Florida DER for the facility's permit application in 1984. Emission factors were developed for particulate matter, CO, NOx, SO₂, HC and lead based on burning 300 TPD of MSW and 178 TPD of wood wastes.

Emission factors for burning 510 TPD of MSW with a heating value of 4500 Btu/lb are given in Table 5. These emission factors are based, in part, on the recent test results at Bay County, as well as previous emission data and/or emission factors proposed at other waste-to-energy facilities.

As can be seen from the last column in Tables 4 and 5, the total predicted annual emissions are very similar. Projected emission levels for CO and HC are lower, while SO₂ and NO_x are slightly higher. There were no emission projections for HCl because this pollutant is not a PSD pollutant.

TABLE 4
EMISSION FACTORS¹ FOR THE BAY COUNTY
RESOURCE RECOVERY FACILITY BURNING 300 TPD MSW
AND 178 TPD WOOD WASTES

	Per train lb/hr	Per train lb/ton	Total ton/year
Particulate Matter (0.03 gr/dscf)	5.72	* 0.54	50
CO	115.4	10.86	1010
NO _x	24.5	2.3	214
SO ₂	22.2	2.09	192
Lead	0.072	0.003	0.3
HC	18.0	0.85	78

¹ Based on the PSD Permit Application submitted in 1984.

TABLE 5
 EMISSION FACTORS¹ FOR THE BAY COUNTY
 FACILITY BURNING 510 TPD OF MSW THAT HAS A
 HEATING VALUE OF 4500 BUT/LB (365 DAYS PER YEAR)

Pollutant	Emission Test Results 4/87-5/87 Per Train	Typical Emission Factors Concentration		6 lb/10 Btu	lb/ton	Total TPY
		Corrected to 12% CO ₂	2			
Particulate Matter	<0.03 gr/dscf	0.03 gr/dscf		0.06	0.54	50
CO	<400 ppm _{wv}	<400 ppm (max 4 day ave)		0.398	3.58	666
NOx	148 ppm _{dv} - 171 ppm _{dv}	150 ppm (annual)		0.267	2.41	223
SO ₂	187 ppm _{dv}	150 ppm (annual)		0.373	3.37	314
HC	---	35 ppm (annual)		0.0218	0.196	18.24
HCl	648 ppm _{dv}	500 ppm (annual)		0.648	5.83	542

¹Based on emission test data from Bay County and other facilities.

Figure 1

DIAGRAM NUMBER: 1252 VERSION: 0
DATE: 06/01/87 TIME: 20:10:17

01/JUN/87
X: AT236A
Y: AT237A

60 MINUTE TREND

20:10:12

OXYGEN ANALYZER BLR. 1
CO ANALYZER BLR. 1

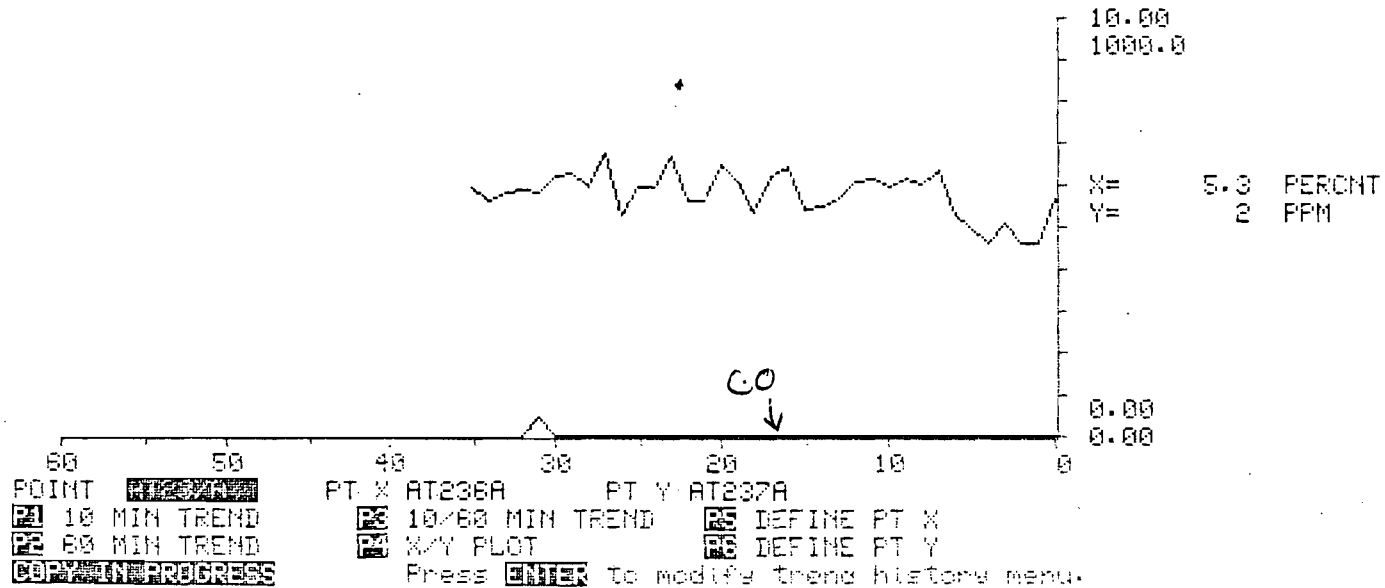
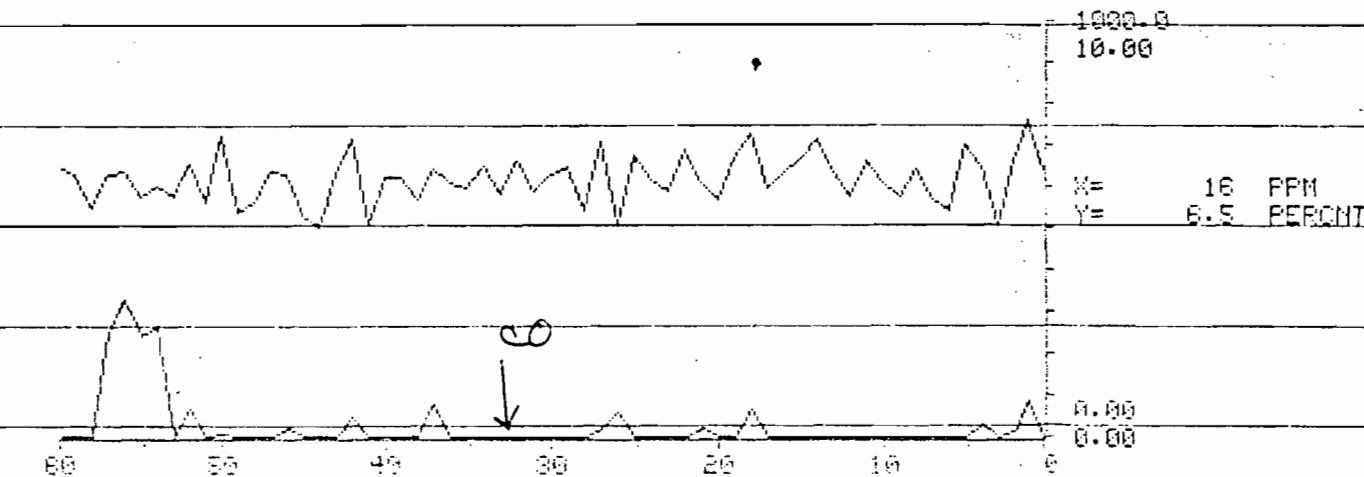


Figure 2. BEST AVAILABLE COPY

DIAGRAM NUMBER: 1257 VERSION: 0

DATE: 06/03/87 TIME: 10:06:46

03/JUN/87 60 MINUTE TREND 10:06:43
X: AT237B CO ANALYZER BLR. 2
Y: AT236B OXYGEN ANALYZER BLR. 2



POINT PT X AT237B PT Y AT236B
P1 10 MIN TREND P2 10000 MIN TREND P5 DEFINE PT X
P3 60 MIN TREND P4 0.00 PLT P6 DEFINE PT Y
COPY=INVERTED Press **ENTER** to modify trend history menu.

BEST AVAILABLE COPY

Figure 3

DIAGRAM NUMBER: 1252 VERSION: 0

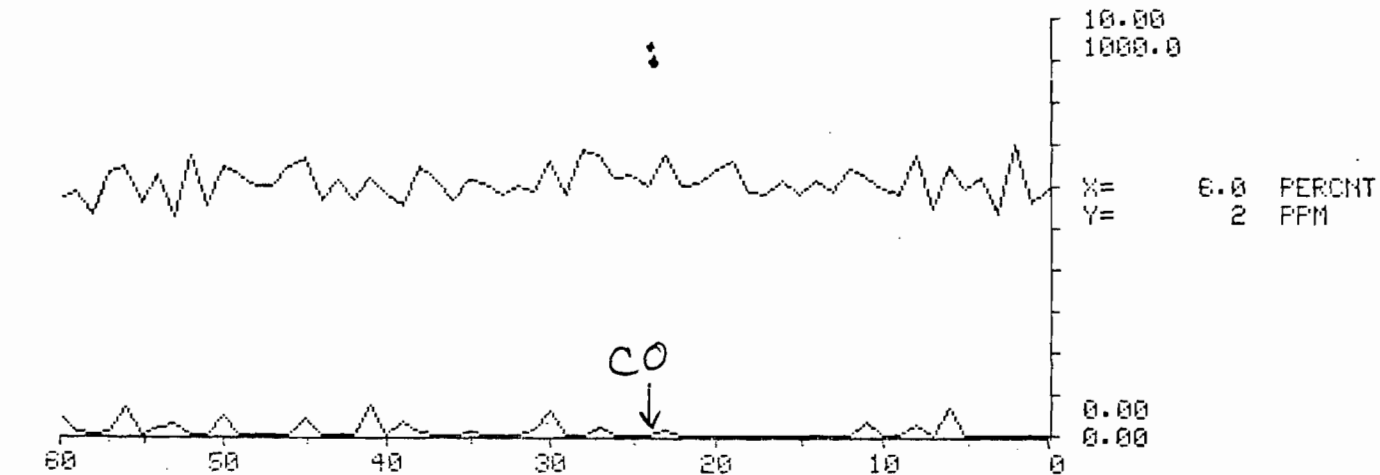
DATE: 06/05/87 TIME: 12:41:10

05/JUN/87

60 MINUTE TREND

12:41:07

X: AT236A OXYGEN ANALYZER BLR. 1
Y: AT237A CO ANALYZER BLR. 1



POINT **AT236A**
F1 10 MIN TREND
F2 60 MIN TREND
COPY IN PROGRESS

PT X AT236A PT Y AT237A
F3 10/60 MIN TREND F5 DEFINE PT X
F4 X/Y PLOT F6 DEFINE PT Y
Press **ENTER** to modify trend history menu.

Figure 4

BEST AVAILABLE COPY

Compliance

Unit #1

Run 11

Air = 1150

DIAGRAM NUMBER: 1052 VERSION: 0

DATE: 06/05/87 TIME: 14:00:43

05/JUN/87

60 MINUTE TREND

14:00:41

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Y: AT237A CO ANALYZER BLR. 1

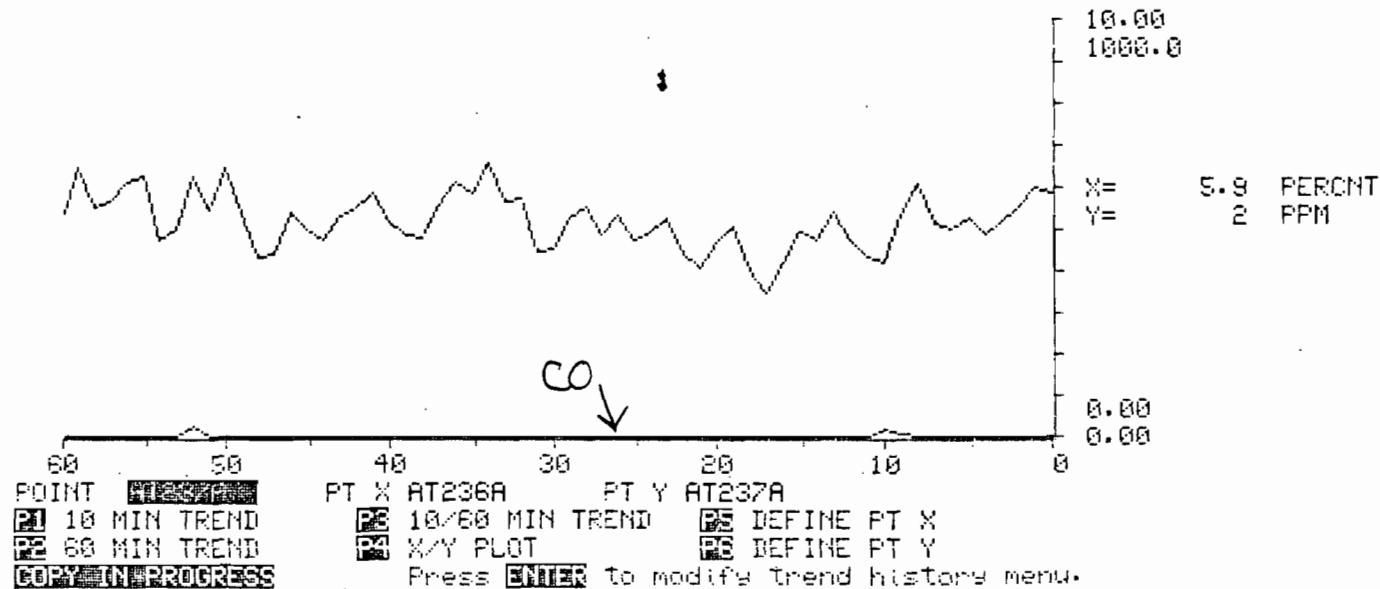


Figure 5

BEST AVAILABLE COPY

DIAGRAM NUMBER: 1252 VERSION: 0

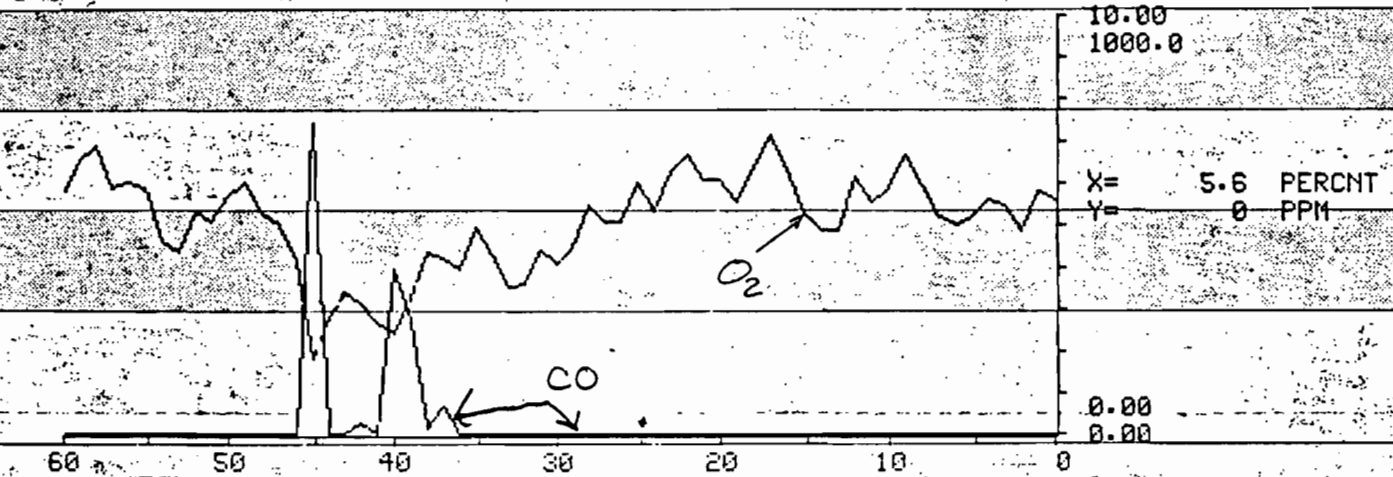
DATE: 06/01/87 TIME: 10:31:19

1 JUN 87

60 MINUTE TREND

10:31:19

X: AT236B OXYGEN ANALYZER BLR. 2
Y: AT237B CO ANALYZER BLR. 2



60 50 40 30 20 10 0

POINT PT X AT236B PT Y AT237B

P1 10 MIN TREND P3 10/60 MIN TREND P5 DEFINE PT X

P2 60 MIN TREND P4 X/Y PLOT P6 DEFINE PT Y

COPY IN PROGRESS Press ENTER to modify trend history menu.

Figure 6

BEST AVAILABLE COPY

DIAGRAM NUMBER: 1252 VERSION: 0

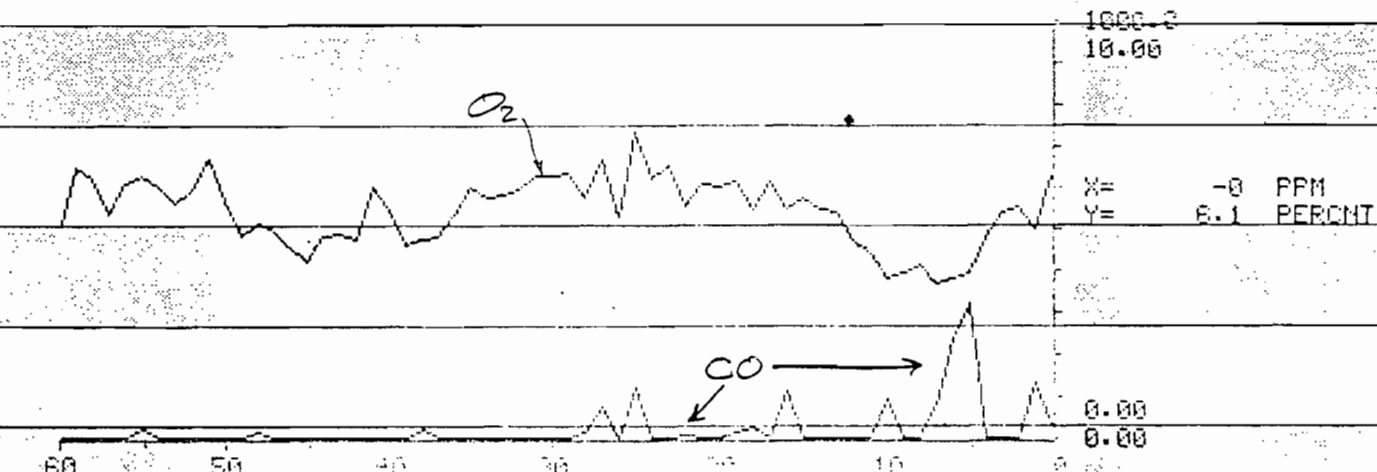
DATE: 06/04/87 TIME: 10:49:51

4 JUN 87

55 MINUTE TREND

10:49:44

X: AT237B CO ANALYZER BLR. 2
Y: AT236B OXYGEN ANALYZER BLR. 2



60 50 40 30 20 10 0

POINT: AT236B FI: AT237B FT: AT236B

P1 10 MIN TREND P2 10 MIN TREND P3 RECORD BY X

P4 55 MIN TREND P5 X= PLOT P6 RECORD BY Y

OPER: NERDRESS PRESS: ENTER TO: CURSOR TRNG: PLOT MENU: MENU

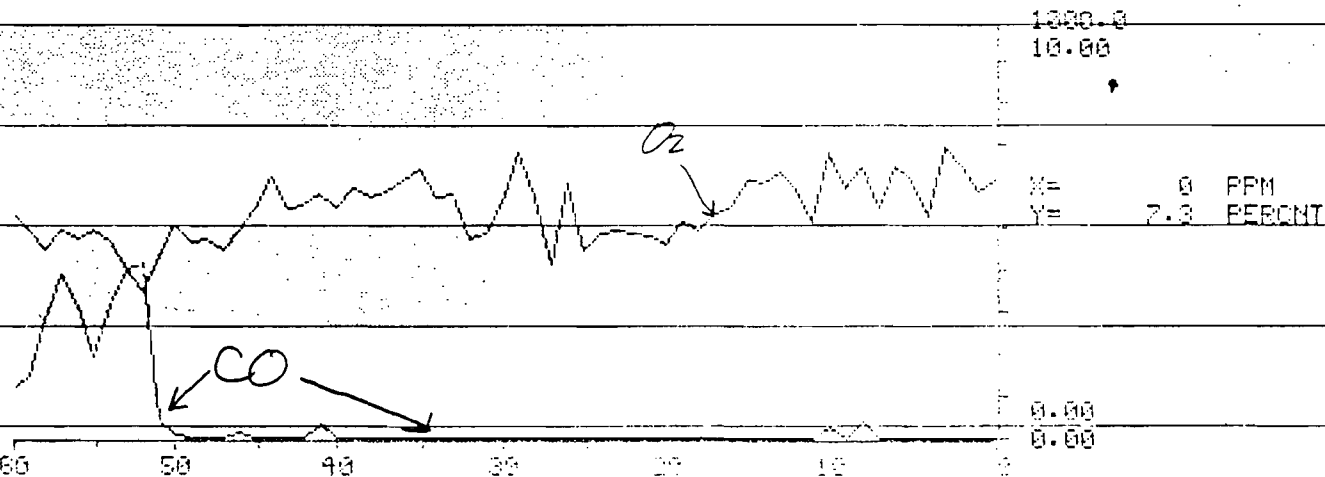
Figure 7 BEST AVAILABLE COPY

DIAGRAM NUMBER: 1252 VERSION: 0

DATE: 06/04/87 TIME: 14:14:48

04 JUN 87 60-MINUTE TREND 14:14:48

X: AT237B CO ANALYZER BLR. 2
Y: AT236B OXYGEN ANALYZER BLR. 2



60 50 40 30 20 10 0
POINT AT236B PT X AT237B PT Y AT236B
P1 10 MIN TREND P2 10/60 MIN TREND P3 DEFINE PT X
P4 60 MIN TREND P5 X/Y PLOT P6 DEFINE PT Y
P7 10/60 MIN TREND P8 DEFINE PT X
P9 60 MIN TREND P10 X/Y PLOT P11 DEFINE PT Y
P12 10/60 MIN TREND P13 DEFINE PT X
P14 60 MIN TREND P15 X/Y PLOT P16 DEFINE PT Y
Press **ENTER** to exit - Press **ESC** to stop trend

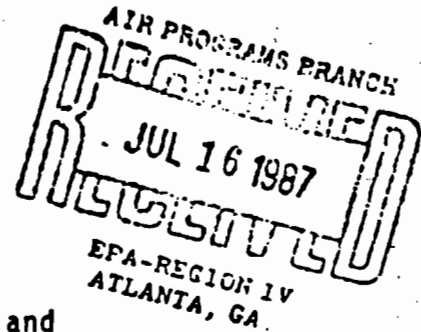
Conclusion

Based on information given in this report, and the test results to confirm compliance with the Florida DER emission limits stated in Permit Numbers AC-03-84703 and AC-03-84-704, the Bay County Resource Recovery Facility requests that the Florida DER issue an operating permit to operate the Bay County facility at a maximum daily rate of 510 TPD of MSW (that has a heating value of 4500 Btu/lb).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

26 JUN 1987



MEMORANDUM

SUBJECT: Operational Guidance on Control Technology for New and Modified Municipal Waste Combustors (MWCs)

FROM: Gerald A. Emison, Director *Gerald A. Emison*
Office of Air Quality Planning and Standards (MD-10)

TO: Air Management Division Directors
Regions I, III, V and IX

Air and Waste Management Division Director
Region II

Air, Pesticides, and Toxics Management Division Directors
Regions IV and VI

Air and Toxics Division Directors
Regions VII, VIII and X

As you know, numerous questions regarding the selection of appropriate pollution control requirements for MWCs have arisen during recent years in major source permitting proceedings under the prevention of significant deterioration (PSD) provisions of Part C of the Clean Air Act and the nonattainment new source review (NSR) provisions of Part D of the Act. Accordingly, the attached operational guidance is being issued to promote consistency in making best available control technology (BACT) determinations under PSD and lowest achievable emission rate (LAER) determinations under nonattainment NSR, and to reduce delay and confusion in the permitting process. This guidance requires reviewing authorities, in considering the range of potential control options during the BACT determination process for MWCs, to consider a dry scrubber and a fabric filter or electrostatic precipitator as BACT for sulfur dioxide (SO₂) and particulate matter (PM), and combustion controls as BACT for carbon monoxide (CO).

The Administrator remanded to Region IX on June 22, 1987, their previous concurrence on a PSD permit for the H-Power MWC to be constructed in Honolulu, Hawaii. Petitioners had argued that, (a) BACT for this facility did not adequately justify the failure to require the use of an acid gas scrubber, and (b) the permitting authority did not evaluate the effectiveness of acid gas scrubbers in reducing emissions of unregulated pollutants, as required

by the June 1986 North County Resource Recovery Associates PSD Appeal decision (or North County remand). In remanding the H-Power permit application to Region IX for further proceedings, the Administrator made it clear that the Agency considers acid gas scrubbers to be an available technology for excess air MWCs that fire refuse-derived fuel (RDF) such as the H-power facility. The attached operational guidance states that this type of post-combustion control is one component of available technology for modular, starved air MWCs and massburn, excess air MWCs, in addition to RDF-fired, excess air MWCs.

As stated above, the operational guidance includes a second component of available technology, which is combustion control for the criteria pollutant CO. Since the effectiveness of the two components of available technology in controlling unregulated pollutants is an important consideration in individual BACT determinations (per the North County remand), the attached guidance states that (a) acid gas scrubbers followed by fabric filters or electrostatic precipitators are effective in controlling potentially toxic organic and metal pollutants, as well as acid gases other than sulfur dioxide, and (b) combustion controls are effective in controlling potentially toxic organic pollutants.

The technical basis for the operational guidance is documented in five reports which are a part of the Agency's comprehensive study of MWC. These volumes are listed in the References section of the guidance. You will note that the guidance indicates "specified values" should be selected on a site specific basis for several design and operating parameters of the facility and for emissions of criteria pollutants. A thorough discussion of the factors to be considered in choosing the "selected values" is included in the five reports from the comprehensive MWC study.

As noted under Section V, this guidance should be transmitted to all State and local agencies to which PSD permitting authority has been delegated under 40 CFR Section 52.21(u). The transmittal letter should specify that the delegation agreement is amended to include this guidance. States which have received SIP approval of a PSD program under 40 CFR Section 51.166 (formerly Section 51.24) should also be informed of this guidance and of EPA's expectation that it be followed.

Attachment

cc: James DeMocker (ANR-443)
Gregory Foote (LE-132A)
Steve Greene (WH-565)
Joseph E. Lees (ANR-443)
J. Craig Potter (ANR-443)
John C. Ulfelder (A-101)
Marcia Williams (WH-562)

6/26/87

OPERATIONAL GUIDANCE ON CONTROL
TECHNOLOGY FOR NEW AND MODIFIED
MUNICIPAL WASTE COMBUSTORS

I. The Need for Guidance.

The combustion of municipal waste represents an increasingly important element of the solid waste disposal problem in the U.S. However, the operation of municipal waste combustors (MWCs) releases potentially harmful pollutants to the air. Human exposure can occur directly or indirectly, and there is also concern that the environment could be vulnerable to long-term accumulation of emitted pollutants. EPA is addressing these issues in a comprehensive, integrated Municipal Waste Combustion Study and with this operational guidance.

Numerous questions regarding the selection of appropriate pollution control requirements have arisen during recent years in major source permitting proceedings under the prevention of significant deterioration (PSD) provisions of Part C of the Act and the nonattainment new source review (NSR) provisions of Part D of the Act. Uncertainty over these questions has led to conflict over minimum legal requirements and consequent delay in the permitting and construction of MWCs. Hence, there is a need for guidance to resolve controversies which may arise as to facilities seeking permits. Accordingly, EPA is issuing this operational guidance for use in making best available control technology (BACT) determinations under PSD and lowest achievable emission rate (LAER) determinations under nonattainment NSR. EPA believes that this guidance will promote consistency in control requirements, and reduce delay and confusion in the permitting

process. At the same time it will allow permitting authorities to give appropriate consideration to local factors in making case-by-case BACT determinations as required under law.

II. Administrative History.

Section 169(3) of the Act provides that BACT determinations in PSD permits must be "based on the maximum degree of reduction of each pollutant subject to regulation under this [Act] . . . which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable." EPA's regulations track this language. See 40 C.F.R. 52.21(b)(12), 40 C.F.R. 51.166(b)(12). In addition, in two administrative appeals involving resource recovery facilities, EPA has further refined the analysis which permitting authorities must conduct in making BACT determinations.

In North County Resource Recovery Associates, PSD Appeal No. 85-2 (June 3, 1986), the Administrator issued a Remand Order which held that, in making BACT determinations for a regulated air pollutant, the permitting authority must consider the effect of that decision on emissions of pollutants not regulated under the Clean Air Act. North County provided that the final BACT decision should address these environmental impacts, and that the permitting authority may ultimately choose more stringent emissions limitations for the regulated pollutant than it would otherwise have chosen if it would have the collateral benefit of restricting emissions of the unregulated pollutant. In the North County case, the permitting authority had required the use of a dry scrubber and fabric filter as BACT for sulfur dioxide, but had failed to consider the effect of that decision on emissions

of certain unregulated pollutants -- dioxins and furans, heavy metals, and acid gases -- on the grounds that it lacked authority to do so. Various persons petitioned the Administrator under 40 C.F.R. Part 124. In response to the Administrator's subsequent remand order, the permitting authority analyzed the effect of various control options on these three classes of pollutants, and found that no other controls on regulated pollutants would be more effective in reducing emissions of the unregulated pollutants. The Administrator then ruled that the permitting authority had satisfied the requirements of the remand order, and denied the petitions. See North County Resource Recovery Associates, PSD Appeal No. 85-2, Order Denying Review (September 4, 1986).

The Administrator ruled in Honolulu Resource Recovery Facility ("H-Power"), PSD Appeal No. 86-6, Remand Order (June 22, 1987), that a PSD permitting authority has the burden of demonstrating that adverse economic impacts justify the failure to require as BACT the most effective control technology which is available. He also found that acid gas scrubbers are an available control technology for sulfur dioxide (SO₂). The H-Power decision also provided that the economic impacts must be specific to the source in question and substantial. Thus, because the Administrator agreed with EPA Region IX that Hawaii had not adequately demonstrated the basis for its conclusion that economic factors justified the absence of flue gas treatment as BACT for SO₂, he remanded the matter for further proceedings.

EPA today also draws upon the technical data referenced below, and its experience in issuing, reviewing, and enforcing PSD permits for MWCs. Recent emission test data have demonstrated that particulate matter (PM), SO₂, and other air pollutants (including organics, heavy metals, and acid gases) can be controlled effectively by acid gas scrubbing devices (dry scrubbers) equipped with efficient particulate collectors. Over 20 MWC facilities in Europe are known to be operating with dry scrubbers and particulate collectors, and at least 37 such facilities are known to exist in Japan. In the United States, three facilities currently are in operation and at least 15 have been permitted to construct with dry scrubbing and particulate control devices as the specified technology. Thirteen of these facilities are expected to be operating by December 1988.

Based on this information, it is clear that a dry scrubber followed by either a fabric filter or electrostatic precipitator are "available" technologies for effective control of the SO₂ and PM emitted by MWCs, and that these technologies also are effective in controlling emissions of potentially toxic organic and heavy metal pollutants, and acid gases other than SO₂. In addition, the data show that these technologies are reliable and reasonably affordable. Similarly, combustion controls are an available technology for the control of carbon monoxide (CO) emitted by MWCs, and are effective in controlling that criteria pollutant and potentially toxic organic pollutants. EPA's information indicates that this technology also is reliable and reasonably affordable.

III. BACT Guidance for SO₂, PM, and CO.

Accordingly, in considering the range of potential control options during the BACT determination process for MWCs, the reviewing authority must consider a dry scrubber and a fabric filter or electrostatic precipitator as BACT for SO₂ and PM, and combustion controls as BACT for CO. In order to justify a BACT determination calling for a lesser degree of emissions control than can be achieved using these technologies, the permitting authority must demonstrate, based on information contained in the permit file, that significant technical defects, or substantial adverse economic, energy, or environmental impacts or other costs would arise that are specific to the MWC in question. Permitting authorities remain free to make case-by-case judgments in accordance with today's guidance. However, based on the above-referenced information regarding legal requirements and the availability, effectiveness, and cost of these technologies, EPA expects that proper application of this guidance will result in few, if any, BACT determinations entailing application of pollution control technologies less effective than those called for herein.

Today's guidance is general; it is limited to describing types of post-combustion control equipment and to establishing general criteria for combustor design, combustor operating practices, emission monitoring, and operator training. It does not set specific emission limits. Detailed information regarding the maximum degree of emissions control achievable with these technologies is available in the referenced technical documents, the BACT/LAER Clearinghouse, or from EPA. Such information should be used by applicants and permitting authorities setting specific emissions

limits for PSD permits. In addition, today's guidance only addresses control technologies currently in widespread use for MWCs, and establishes minimum criteria for BACT determinations. Permitting authorities are not relieved of their responsibility to consider, on a case-by-case basis, whatever available technologies may be anticipated to provide a greater degree of control than those addressed today. Similarly, because control technologies and the other factors in forming BACT determinations are constantly evolving, the technology providing the greatest degree of emissions control taking economic, energy, and environmental impacts into account may likewise change over time. As one example, flue gas treatment technology for the criteria pollutant nitrogen oxides (NO_x) is in operation at one MWC in the U.S., and this technology should be considered by permitting authorities in making BACT determinations. In addition, emerging technologies in flue gas cleaning may develop which can attain the level of multipollutant control currently demonstrated by dry scrubbing/particulate matter controls, and technologies such as these should be considered in future BACT determinations. Permitting authorities and applicants must keep abreast of new developments. Of course, EPA will assist in this endeavor.

IV. LAER Guidance for Nonattainment Areas.

The technologies discussed herein for control of SO_2 , PM, CO, and NO_x have all been successfully implemented, and thus have been "achieved in practice" by MWCs within the meaning of section 171(3) of the Act. Hence, in nonattainment areas where NSR requirements apply and major new sources and modifications must apply LAER, no less effective pollution control technologies may be imposed as LAER.

V. Implementation.

Today's guidance applies to all ongoing PSD and NSR proceedings, as well as to all new permit applications. In consideration of the needs for program stability and equity to sources which have in good faith relied on pre-existing permitting guidelines, this guidance does not apply to PSD and NSR permit proceedings for which, as of June 26, 1987, final permits have already been issued and, with respect to PSD permits issued by EPA, agency review procedures under 40 C.F.R. Part 124 have been exhausted.

This operational guidance applies to PSD permits issued by EPA directly through its Regional offices and indirectly through State and local agencies pursuant to delegation agreements made under 40 C.F.R. 52.21(u). Such agencies will be notified by letter of this guidance. It will constitute an amendment to the pre-existing delegation agreements. EPA Regional offices will review all draft permits for MWCs issued by delegate agencies during the public comment period to insure proper application. Further program evaluation will take place under the National Air Audit System (NAAS). If delegate agencies should fail to adhere to this guidance, EPA staff may initiate administrative appeal proceedings under 40 C.F.R. Part 124 in appropriate cases. Such action would be appropriate where, for example, failure to follow the guidance results in a finding of fact or conclusion of law which is clearly erroneous, or involves an exercise of discretion or an important policy consideration which the Administrator should review. See 40 C.F.R. 124.19(a). Action would also be appropriate where failure to follow the guidance resulted in an inability to determine,

based on the record, whether a clear error occurred. If necessary, EPA may also revoke the delegation of PSD authority to the State or local agency.

With respect to State PSD permits issued pursuant to a State implementation plan (SIP) program approved by EPA under 40 C.F.R. 51.166 (formerly 51.24), and State NSR programs approved under Part D of the Act and 40 C.F.R. 51.165 (formerly 51.18(j)), EPA expects States to follow today's guidance in generally the same fashion as delegate agencies. EPA will use the guidance as a reference point in its oversight of State MWC permit actions. As with delegated permits EPA will participate in permit proceedings and conduct NAAS evaluations. If agencies processing NSR permits or PSD permits under approved State programs should fail to adhere to this guidance, EPA may initiate administrative and/or judicial action under sections 113 and/or 167 of the Act in appropriate cases. Such action would be appropriate where, for example, failure to follow the guidance results in a finding of fact or conclusion of law which is clearly erroneous, or in an inability to determine whether a clear error occurred. If necessary, EPA may also call for SIP revisions under section 110(a)(2)(H).

Insofar as today's guidance addresses minimum legal requirements for BACT determinations, it simply implements existing regulations and policy, including Agency actions already made by the Administrator in the North County and H-Power cases. To the extent the guidance addresses the technical issues of availability, effectiveness, and cost of control technologies for MWCs, it expresses EPA's view regarding the proper usage, in permit proceedings under existing EPA regulations and SIP programs, of the factual data contained

in the five documents referenced below. Those documents present information on the alternative controls available for MWCs, the performance capabilities and costs of those controls, and the methods for monitoring and measuring emissions from MWCs. Factors to be considered in choosing the "specified values" to be included in permits, as noted in the guidance, such as maximum concentration of CO in emissions and minimum value of furnace temperature, are contained in these references. Thus, the guidance does not constitute rulemaking within the meaning of section 307(d) of the Act or under the Administrative Procedure Act. Accordingly, it is not necessary to implement this guidance, as to EPA permits issued by Regional offices or State and local agencies, through changes in the PSD regulations at 40 C.F.R. 52.21. Likewise, regarding approved State PSD programs, it is not necessary to revise 40 C.F.R. 51.166 and require corresponding SIP revisions.

VI. Technical Guidance.

Today's operational guidance applies to three types of MWCs: massburn, excess air MWCs; excess air MWCs that fire refuse-derived fuel; and modular, starved air MWCs. It applies to those MWCs that operate with energy recovery and those that operate without energy recovery. It applies to both major new and major modified facilities of these types. The guidance requires that values for emission limits and operating parameters be specified in MWC permitting decisions.

One component of control technology for MWCs is the application of the appropriate post-combustion control equipment. The EPA has identified this equipment as a dry scrubber with fabric filter or with electrostatic

precipitator. The concentration of particulate emissions in the exhaust gases from the post-combustion control equipment shall not exceed a specified maximum value; and the SO₂ emissions in the exhaust gases shall not exceed a specified maximum concentration value or the percent reduction in SO₂ emissions across the post-combustion control equipment shall not be less than a specified value. Performance of the dry scrubber and fabric filter or electrostatic precipitator in controlling acid gases, potentially toxic metals, and potentially toxic organic pollutants is affected significantly by the reduction in flue gas temperature which occurs in the dry scrubber. The control system shall be designed and operated such that the flue gas temperature at the outlet from the dry scrubber does not exceed a specified value.

A second component of control technology for MWCs is proper design and operation of the combustion system, which controls CO and potentially toxic organic pollutants. Minimum concentrations of CO in emissions from MWCs are associated with the implementation of several good combustion practices. These practices are also related to the effective destruction of potential emissions of toxic organic pollutants, including dioxins and furans. Concentrations of CO in furnace exhaust gases shall not exceed a specified maximum value, and CO and O₂ concentrations in the exhaust gases shall be monitored continuously. In addition, furnace operating temperatures shall be no lower than a specified minimum[†] value, and a procedure for continuous monitoring shall be established to ensure that the specified temperature is maintained.

The capabilities to control flow rates and distributions of underfire (primary) and overfire (secondary) air, to monitor continuously CO concentration and furnace temperature, to maintain thermal load within a specified range, and to control the process to maintain CO and temperature of the furnace at appropriate levels are all important to good combustion. Detailed information regarding the numerical values to be assigned to the emission levels and equipment design and operating parameters associated with good combustion are provided in the documents cited under References.

References:

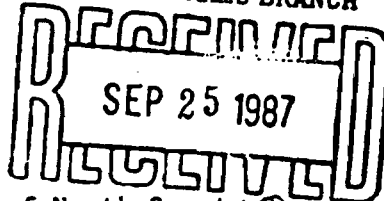
- Municipal Waste Combustion Study: Emission Data Base for Municipal Waste Combustors.
EPA/530-SW-87-021B
- Municipal Waste Combustion Study: Combustion Control of Organic Emissions.
EPA/530-SW-87-021C
- Municipal Waste Combustion Study: Flue Gas Cleaning Technology.
EPA/530-SW-87-021D
- Municipal Waste Combustion Study: Cost of Flue Gas Cleaning Technologies.
EPA/530-SW-87-021E
- Municipal Waste Combustion Study: Sampling and Analysis.
EPA/530-SW-87-021F

Best Available Copy



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711
AIR PROGRAMS BRANCH



SEP 25 1987

MEMORANDUM

SUBJECT: Implementation of North County Resource Recovery PSD Remand

FROM: Gerald A. Emison, Director
Office of Air Quality Planning and Standards (MD-10)

TO: Director, Air Management Division, Regions I, III, V, and IX
Director, Air and Waste Management Division, Region II
Director, Air, Pesticides, and Toxics Division, Regions IV and VI
Director, Air and Toxics Division, Regions VII, VIII, and X

On June 3, 1986, the Administrator remanded a prevention of significant deterioration (PSD) permit decision, involving the North County Resource Recovery project, to Region IX for their reconsideration. The permit was for a 33-megawatt, 1000 tons-per-day facility to be located in San Marcos, California. At issue was whether appropriate consideration had been given, within the best available control technology (BACT) determination, to the environmental effects of pollutants not subject to regulation under the Clean Air Act (Act).^{*} The remand strongly affirms that the permitting authority should take the toxic effects of unregulated pollutants into account in making BACT decisions for regulated pollutants. This obligation arises from section 169(3) of the Act, which defines BACT as the maximum degree of emissions decrease which the permitting authority determines is achievable, taking into account "environmental . . . impacts." Essential to this process is the notification to the public of how the effects of toxic air pollutants, including those that are unregulated, have been considered in the PSD review and the subsequent consideration of the comments in making the final BACT decision. The purpose of this memorandum is to advise you of the impact of the remand on PSD permitting and to provide implementation guidance. This document builds upon and makes final the draft guidance of August 1986.

Coverage

Although the Act has given us the authority to review directly the considerable range of regulated pollutants, the remand clearly indicates that the Environmental Protection Agency (EPA) should incorporate consideration of all pollutants within its PSD determinations for all sources subject to PSD. This result is consistent with the fact that the PSD permitting process is charged ". . . to protect public health and welfare from any

^{*}A "regulated pollutant," or "pollutant subject to regulation under the Clean Air Act," is one which is addressed by a national ambient air quality standard, a new source performance standard, or is listed pursuant to the national emission standards for hazardous air pollutants program.

actual or potential adverse effect . . . from air pollution" and that increases in air pollution should be permitted ". . . only after careful evaluation of all the consequences" [section 160(1) and (2)].

Revisions to State implementation plans (SIP's), to comport with the Administrator's decision, should not be necessary. State or local agencies with delegated PSD programs automatically track this change in policy. Agencies implementing their own SIP-approved programs are also unlikely to need any regulatory changes. This is because the remand is based on an interpretation of Act language, notably the definition of BACT, that is in most cases already contained in the plan. I ask that you confirm this with your States and applicable local agencies,

Transition

As with any change in the way EPA does business, we have developed a transition plan for its implementation. The situations can be addressed most logically by dividing all PSD sources into three groups based on phase of permitting activity: those sources for which permit applications had not been filed, those for which permits had already been granted, and those for which applications had been filed but permits not yet granted.

First, all PSD sources for which complete applications had not been filed as of the Administrator's June 3, 1986, decision are fully subject to the remand's requirements. Earlier applications present more complex policy considerations.

One could argue, since the Administrator's decision is an interpretation of existing Act provisions, rather than a new requirement, that all PSD permits issued under the terms of the 1977 Amendments to the Act should be subject to the remand. However, program stability and equity to sources, in this second group, that have relied upon properly issued PSD permits militate strongly against such an approach. For these reasons, I have decided to exempt from the requirements of the remand all sources holding finally issued permits as of June 3, 1986. (Subsequent major modifications to such existing sources are, of course, subject to PSD review, including the application of the requirements of this remand.)

The third group of sources consists of those for which PSD permits were in the pipeline (i.e., complete application filed but permits not yet issued) as of the date of the remand. It is appropriate that these sources also be subject to the terms of the remand. However, for permit applications which have successfully passed through the public comment period without environmental effects concerns being raised, the Regional Office may, at its discretion, issue these in final without further delay.

The above enunciated transition policy applies directly to all EPA permit issuance procedures and also to those used by State agencies issuing PSD permits under a delegation of authority agreement pursuant to 40 CFR 52.21(u). This transition policy does not automatically apply to PSD

permit decisions by States under SIP-approved PSD programs, except to the extent that environmental effects issues are raised by commenters. The policy does apply prospectively in a uniform fashion to all applications filed after June 3, 1986. States with SIP-approved PSD programs are, of course, responsible for enunciating reasonable transition schemes and I ask that you encourage them to adopt policies consistent with this one. These transition schemes, as with the substantive program itself, are unlikely to require rulemaking; however, the policies should be set forth in formal statements so as to further the goals of public awareness and consistent application. These policies and their implementation will be reviewed within the National Air Audit System to assess the need to require greater conformance.

Required Analyses

The BACT requirement outlined in section 169(3) of the Act contemplates a decision process in which the best available controls are defined for each regulated pollutant that a PSD source would emit in significant amounts. This case-by-case process is to take into account energy, environmental, and economic impacts and other costs. The toxic effects of unregulated pollutants are to be accounted for in deciding if the BACT otherwise being prescribed for regulated pollutants still represents the appropriate level and type of control. If the reviewing authority judges the potential environmental effects of such unregulated pollutants to be of possible concern to the public, then the final BACT decision for regulated pollutants should in all cases address these effects and reflect, as appropriate, control beyond what might otherwise have been chosen.

A recent remand determination made by the Administrator in another case provides further elucidation of the BACT process. In that case, Honolulu Program of Waste Energy Recovery (H-Power), PSD Appeal No. 86-6, Remand Order (June 23, 1987), the Administrator ruled that a PSD permitting authority has the burden of demonstrating that adverse economic impacts are so significant as to justify the failure to require the most effective pollution controls technologically achievable as BACT.

The broad mandate with respect to toxics that is presented by the remand is not readily amenable to highly detailed national guidance that provides the appropriate permitting requirement in each case. There is no specific formula for making BACT decisions; this is a case-by-case process involving the judgment of the reviewing authority. While it may be possible to develop a framework of guidance based upon such factors as risk assessment and reference doses, this would entail a large effort that seems inappropriate at this time. It is more practical, however, for EPA to develop guidance for specific source categories that are of particular importance. The EPA has recently provided such BACT guidance with respect to municipal waste combustors. See memorandum entitled "Operational Guidance on Control Technology for New and Modified Municipal Waste Combustors," from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, dated June 26, 1987. Guidance on other source categories may be issued from time to time as appropriate.

Today's policy charges the PSD review authority with analyzing at the outset the environmental impacts of proposed construction projects with respect to air toxics which might be of concern, even if such matters are not initially raised by the public. Other types of environmental effects should also be addressed in response to public concerns, within the limits of the ability to do so. For PSD reviews consistent with this policy, each applicable permitting authority should initiate an evaluation of toxic air pollutants (unregulated as well as regulated) which the proposed project would emit in amounts potentially of concern to the public. The review authority should evaluate unregulated pollutants for both carcinogenic and noncarcinogenic effects. The National Air Toxics Information Clearinghouse (NATICH) data base contains considerable information relevant to evaluating the effect, sources, and control techniques available for unregulated pollutants. I encourage you to urge permitting authorities to use NATICH as a source of information as they conduct the analyses. Further information may be obtained by calling the NATICH staff at 629-5519.

The response to the Administrator made by EPA Region IX in its analysis of the North County permitting decision is attached. Although this example illustrates only one of several acceptable approaches, it is a well thought out analysis that provides a useful example to consider for future permitting exercises.

Headquarters has several other mechanisms in effect to support analyses with respect to toxics. These include a recent report which helps to estimate toxic air emissions from various sources (Compiling Air Toxics Emission Inventories, EPA-450/4-86-010). The burden of proof regarding emissions estimates, of course, rests with the applicant, but the techniques discussed in the document should be useful in determining if the applicant's estimates are reasonable and address appropriate pollutants. In addition, the Office of Research and Development (ORD) has released a control technology manual which is valuable in evaluating how control devices for particulate matter and volatile organic compounds differ in their abilities to control various toxic species of these criteria pollutants (Control Technologies for Hazardous Air Pollutants, EPA-625/6-86/014).

Support will also be available on a case-by-case basis from the Office of Air Quality Planning and Standards (OAQPS) and ORD. In particular, we have formed a control technology center to provide assistance to the review authority in determining BACT. This center can offer a range of activities, including evaluation of source emissions, identification of control techniques, development of control cost estimates, identification of operation and maintenance procedures, and, in a few situations, in-depth engineering assistance on individual problems. Other planned activities include the publication of technical guidance to assist in the evaluation of selected types of sources. Contact points for the control technology center are Lee Beck in OAQPS (629-0800) and Sharon Nolen in ORD (629-7607). We expect this support to limit the effort required of PSD reviewing authorities.

Public Participation

One of the most important features of this policy is the requirement that the affected public be fully informed of the potential toxic emissions from a proposed project and of what the reviewing authority has done to minimize this potential within the BACT decision. A specific discussion of toxics concerns in a technical support document might be helpful in accomplishing this information transfer. Additional concerns related to the environmental effects of unregulated pollutants raised by commenters must then be addressed in the final BACT determination. This process is of central importance to PSD permitting and comments received must be adequately addressed in the final decision. Strong public participation is consistent with the PSD goals contained in section 160 of the Act, which relate to informing the public of increased air pollution, including that due to unregulated pollutants.

It should be noted that although these analyses are used in the BACT decision, they will not be used as the basis for disapproving a project that has agreed to apply BACT. In other words, today's policy requires that toxics be considered in the control of the proposed project only to the extent that the level of control chosen as BACT is achievable.

Enforcement

In the case of delegated (as opposed to SIP-approved) PSD programs, EPA has various enforcement tools. Pursuant to 40 CFR 124.19, any party that participated in the public proceedings with respect to a proposed permit may, within 30 days of the final permit decision, petition the Administrator of EPA to review any condition of that permit decision. The Administrator may also seek to review any such permit condition on his own initiative. Should this appeals procedure be unavailable in a particular case, EPA has the authority, depending upon the facts of the case, to withdraw the delegation with respect to an individual permit that is being or has been issued inconsistently with the terms of that delegation. Thus, EPA may be able to directly intervene in the issuance of a PSD permit to ensure implementation of today's policy. This withdrawal of delegation is not the preferred course of action but it may be available if needed.

The consideration of air toxics in PSD permitting is a requirement of the Act and, through the definition of BACT, is incorporated in the SIP's. Therefore, violation of this policy would constitute a SIP violation and be enforceable by EPA. Section 113(a) of the Act provides for Federal issuance of a notice of violation in the case of a violation of a SIP. If the violation continues for more than 30 days, section 113(b) provides that the Administrator shall commence an action for injunction or civil penalty, or both. In addition, section 167 of the Act specifically provides that EPA take legal action to prevent the construction of a major emitting facility that does not conform to the requirements of PSD. Under section 167, EPA can issue an administrative order or commence a civil action. Since no

notice of violation would be necessary, in this case, EPA can use section 167 to order immediate cessation of construction or operation. Note also that this section has been construed as providing EPA with authority to take enforcement action against sources out of compliance with PSD even if they have already been constructed. These remedies are more likely to be used in the case of SIP-approved programs than with delegated programs, for which an appeal under 40 CFR Part 124 would generally be the preferred course of action.

Enforcement actions are pursued after reviewing a range of factors relevant to each particular case. For this reason, I am not setting forth detailed provisions as to required enforcement measures. There are, however, certain situations in which enforcement action is generally appropriate. These include procedural deficiencies, such as failure to solicit public comment on air toxics issues for applicable permits, and failure to address the air toxics concerns raised by public comment. Enforcement with respect to permits already in the pipeline should follow the transition scheme in today's policy for delegated programs and the State or local agreement established with EPA for SIP-approved programs.

The Act and the PSD regulations require that States submit a copy of the public notice for proposed permits to EPA. I urge the Regional Offices to ensure that such notices are submitted and are reviewed for conformance with the criteria contained in this document. Although enforcement mechanisms are available to address noncomplying sources, our efforts to implement today's policy will be much more effective if taken prospectively and in coordination with the State permitting process.

Conclusion

Today's guidance summarizes the broad ranging impact of the June 3, 1986, remand and provides some insight into the analyses and public disclosure that now should take place. We will continue to support and monitor subsequent decisions and to assess the need for more detailed or expansive guidance. Questions on today's guidance should be addressed to Michael Trutna (629-5345) or Kirt Cox of OAQPS (629-5399).

Attachment

cc: C. Potter
A. Eckert
D. Clay
Regional Administrator, Regions I-X
Air Branch Chiefs, Regions I-X



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street
San Francisco, Ca. 94105

MEMORANDUM

DATE: August 15, 1986

SUBJECT: North County Resource Recovery Associates
PSD Appeal No. 85-2

FROM: *Doris E. Howekamp*
Doris E. Howekamp, Director
Air Management Division, Region 9

TO: Lee M. Thomas, Administrator
U.S. Environmental Protection Agency

This is in response to the June 3, 1986 remand of Region 9's April 2, 1985 determination to issue a Prevention of Significant Deterioration (PSD) permit to the North County Resource Recovery Associates for the construction of a 1000 ton per day resource recovery facility. The remand charged Region 9 with reconsidering the effects of unregulated pollutants when making PSD determinations.

Region 9 has reviewed the relevant BACT decisions and has prepared a response to the Administrator's remand, as recommended in the July 21, 1986 guidance memo from Gerald A. Emison, Director, Office of Air Quality Planning and Standards. Our response with supporting materials is attached.

If you have any questions regarding the enclosed materials please contact me at 454-8201 (FTS) or have your staff contact Wayne A. Blackard, Chief of our New Source Section at 454-8249 (FTS).

Enclosures

RESPONSE TO PSD REMAND
NORTH COUNTY RECYCLING AND ENERGY RECOVERY CENTER
(PSD Appeal No. 85-2)

On April 2, 1985 the Director of the Air Management Division, EPA Region 9, made a determination to issue a Prevention of Significant Deterioration (PSD) permit to the North County Resource Recovery Associates (NCRRA) for the construction and operation of a 33 megawatt, 1000 ton per day resource recovery facility. During the following appeal period EPA received three petitions filed pursuant to 40 CFR 124.19 requesting the Administrator to review Region 9's decision to issue the PSD permit. The Office of the Administrator reviewed the petitioners' comments and Region 9's responses to the comments and determined that Region 9 had satisfactorily addressed all of the petitioners' allegations with the exception of Region 9's assertion that EPA lacked the authority to "consider" pollutants not regulated by the Clean Air Act when making a PSD determination. The Administrator felt that Region 9's assertion was overly broad and that when making a PSD determination, in particular a best available control technology (BACT) decision, a permitting agency must consider not only the environmental impact of the controlled regulated pollutant but must also consider the environmental impacts of any unregulated pollutants that might be affected by the choice of control technology. For this reason the Administrator remanded the PSD determination to Region 9 for reconsideration and action consistent with the above interpretation of EPA authority.

In response to the above, Region 9 has reviewed the BACT decisions made for the NCRRA PSD permit. Under the PSD regulations NCRRA must apply BACT to control emissions of SO₂, NO_x, lead, mercury, and fluorides from their proposed resource recovery facility. BACT is defined in the Clean Air Act as "...an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act...on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs..." Under environmental impacts our review of the original BACT determination included the impacts from both regulated and affected unregulated pollutants. The control of particulates, CO, and VOC emissions are not directly subject to the federal PSD BACT review, but are subject to the nonattainment permitting regulations which are administered by the San Diego Air Pollution Control District.

NCRRA is proposing to use a dry scrubber with a baghouse to control emissions of SO₂, acid gases, and particulate matter from the proposed resource recovery project. The dry scrubber consists of a spray dryer and a baghouse. The spray dryer injects an atomized lime slurry sorbent into the flue gas stream. The baghouse removes the dried sorbent and flyash (particulate matter) from the flue gas. The dry scrubber will be designed for a flue gas flow of 225,000 acfm at an inlet temperature of

340 degrees F and a maximum outlet temperature of 265 degrees F. NCRRA expects the dry scrubber system to provide 83% removal of SO₂ and 95% removal of acid gases as well as 99.5% removal of particulates.

Recent tests of emissions control devices for waste fired boilers (the latest being the Quebec City Test Program) have shown that properly designed and operated control devices can significantly reduce emissions from resource recovery facilities. In particular, an acid gas scrubbing system operating at optimal stoichiometric ratios, at low temperature, in tandem with a baghouse can achieve very high removal efficiencies of particulates, SO₂, HCl, organics, and heavy metals. The tests indicate that the NCRRA's proposed emission control system (lime slurry spray dryer, baghouse, low temperature flue gas) is the most efficient for controlling the unregulated pollutants from a resource recovery facility. While certain technologies may have the potential for greater removal of regulated pollutants (e.g. a wet scrubber may yield greater SO₂ removal), available data suggests that greater control of unregulated pollutants will not result. Region 9 believes that the NCRRA's proposed control technology will have very high collection efficiencies of dioxins, furans, and heavy metals, with collection efficiencies of 95% for HCl, and greater than 90% for mercury. We conclude that a lime slurry spray dryer with a baghouse provides the greatest degree of control currently achievable for the relevant air toxics concerns and therefore, emission limitations based on the operation of a lime slurry spray dryer with a baghouse and continuous emission monitors constitute BACT for the control of SO₂, lead, mercury, and fluorides from the NCRRA facility.

In addition to the proposed acid gas BACT, Region 9 also reviewed the BACT decisions made for controlling NO_x emissions from the NCRRA facility. NCRRA has proposed to control NO_x emissions with low excess air and staged combustion. After reviewing all of the available control technologies, Region 9 believes that the alternate NO_x control technologies currently available for resource recovery do not offer any better control of the affected pollutants (organics such as dioxins and furans) than do the controls proposed for the NCRRA facility. Our review included staged combustion, selective non-catalytic reduction, selective catalytic reduction, wet flue gas denitrification, and the different categories of source separation. Our review also took into account the effects of the district permit requirements designed to reduce organic toxic pollutants (minimum 1800° F furnace temperature and minimum 2 second residence time in the combustion zone). We conclude that an emission limitation based on the use of low excess air and staged combustion and with continuous emission monitors is BACT (considering the effect of unregulated pollutants) at this time for the control of NO_x emissions from the NCRRA facility.

As part of our BACT review of the NCRRA PSD permit, Region 9 prepared several charts listing the available SO₂ and NO_x control options for the NCRRA facility, ranked in order of control

effectiveness, with the estimated impacts of the controls on the projects' other air pollutants. The charts were prepared using data from existing Region 9 PSD permits, permit applications, district permits, emission control technology reports from the California Air Resources Board and the New York City Department of Sanitation, and from reports on the Quebec City Test Program. The impacts on other pollutants were estimated using our best engineering judgement based on the available data. We have included these charts with this report for your review.

After reviewing the above facts, Region 9 has concluded that no greater controls for the regulated pollutants can be applied that would be more effective in reducing the emissions of unregulated pollutants. Therefore, the BACT proposed by NCRRA and the BACT decisions made by Region 9 in the April 2, 1985 PSD determination are reaffirmed as BACT for controlling SO₂, NO_x, lead, mercury, and fluoride emissions from NCRRA's proposed North County Recycling and Energy Recovery Center.

REFERENCES

1. Air Pollution Control at Resource Recovery Facilities, California Air Resources Board, May 24, 1984.
2. Clarke, Marjorie J., Emission Control Technologies for Resource Recovery, New York City Department of Sanitation, March 15, 1986.
3. Hay, D.J., Finkelstein, A., Klicuis, R., Masentette, L., "The National Incinerator Testing and Evaluation Program: An Assessment of A) Two-Stage Incineration B) Pilot Scale Emission Control", Presented at the 79th Annual Meeting of the Air Pollution Control Association, June 22-27, 1986, Minneapolis, Minnesota.

EPA Region 9 - New Source Section
 BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)

Project: North County RRF
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDP, 36 MW
 Pollutant: SO₂
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates lbs/ton (ppm) (1)	Emissions (tons/yr)	Control Effectiveness on Other Pollutants				
				Heavy Metals	Dioxin Furans	HCl	Hg	Lead
Spray Dryer, Alkaline Slurry, Baghouse	80-95	0.26-1.04 (9-35)	53-212	Exc	Exc	Exc	Good	Exc
Spray Dryer, Lime Slurry, Baghouse	75-90	0.52-1.30 (18-44)	106-265	Exc	Exc	Exc	Good	Exc
Spray Dryer, Alkaline Slurry, ESP	75-90	0.52-1.30 (18-44)	106-265	good	good	Exc	Fair	Good
Dry Injection, Sodium Sorbent, Baghouse	70-85	0.78-1.56 (26-53)	159-318	Exc	Poor	Exc	Poor	Good
Spray Dryer, Lime Slurry, ESP	65-85	0.78-1.82 (26-62)	159-371	Good	Good	Exc	Fair	Good
Dry Injection, Lime, Baghouse	65-80	1.04-1.82 (35-62)	212-371	Good	Poor	Exc	Poor	Good
Wet Scrubbing, Alkaline	50-90+	0.52-2.61 (18-88)	106-530	Poor	Poor	Exc	Fair	Fair
Dry Injection, Sodium Sorbent, ESP	50-75	1.30-2.61 (44-88)	265-530	Fair	Poor	Exc	Poor	Fair
Dry Injection, Lime, ESP	40-70	1.56-3.13 (53-106)	318-636	Fair	Poor	Good	Poor	Fair

(1) Corrected to 12% CO₂, 24 hour average

EPA Region 9 - New Source Section
 BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)
 Page 2

Project: North County RRF
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDF, 36 MW
 Pollutant: SO₂
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates lbs/ton (ppm) (1)	Emissions (tons/yr)	Control Effectiveness on Other Pollutants				
				Heavy Metals	Dioxin Furans	HCl	Hg	Lead
Dry Injection, Limestone, ESP	25-40	3.13-3.91 (106-132)	636-795	Fair	Poor	Good	Poor	Fair
Wet Scrubbing, Water	20-30	3.65-4.17 (124-141)	742-848	Poor	Poor	Fair	Poor	Fair
Source Separation	5-10	4.69-4.95 (159-168)	954-1007	Poor	Fair	Fair	Poor	Poor

(1 Corrected to 12% CO₂, 24 hour average.

EPA Region 9 - New Source Section
 BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)

Project: North County RRF
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDF, 36 MW
 Pollutant: NO_x
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates lbs/ton (ppm) (1)	Emissions (tons/yr)	Control Effectiveness on Other Pollutants			
				Dioxin Furans	VOC	CO	Heavy Metals
Selective Catalytic Reduction (SCR) (2)	90-95	0.31-0.61 (15-30)	65-129	Unk	Poor	Poor	None
Wet Flue Gas Denitrifica- tion (FGD _n) (2)	80-90	0.61-1.21 (30-60)	129-258	None	None	None	Poor
Selective Non-Catalytic Reduction (SNCR)	30-60	2.43-4.25 (110-200)	473-860	None	None	None	None
Low Excess Air/Staged Combustion	30-35	3.94-4.25 (185-200)	795-860	Unk	Unk	Unk	None
Flue Gas Recirculation	10-15	5.16-5.46 (240-260)	1032-1118	Worsen	Worsen	Worsen	None
Source Separation	Minimal	-	-	Fair	Poor	Poor	Poor

(1) Corrected to 12% CO₂, 24 hour average.

(2) This control technology has not yet been applied to refuse combustion, and has not been considered as a transferable technology due to as yet unresolved technological problems.

EPA Region 3 - New Source Section
 BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)

Project: North County RRF
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDF, 36 MW
 Pollutant: NO_x
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates lbs/ton (ppm) (1)	Emissions (tons/yr)	Control Effectiveness on Other Pollutants				
				Dioxin Furans	VOC	CO	Heavy Metals	
Selective Catalytic Reduction (SCR) (2)	90-95	0.31-0.61 (15-30)	65-129	Unk	Poor	Poor	None	
Wet Flue Gas Denitrifica- tion (FGD _n) (2)	80-90	0.61-1.21 (30-60)	129-258	None	None	None	Poor	
Selective Non-Catalytic Reduction (SNCR)	30-60	2.43-4.25 (110-200)	473-860	None	None	None	None	
Low Excess Air/Staged Combustion	30-35	3.94-4.25 (185-200)	795-860	Unk	Unk	Unk	None	
Flue Gas Recirculation	10-15	5.16-5.46 (240-260)	1032-1118	Worsen	Worsen	Worsen	None	
Source Separation	Minimal	-	-	Fair	Poor	Poor	Poor	

(1) Corrected to 12% CO₂, 24 hour average.

(2) This control technology has not yet been applied to refuse combustion, and has not been considered as a transferable technology due to as yet unresolved technological problems.



Westinghouse
Electric Corporation

ENG:DSB:87-130

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania
(412) 636 5800
WIN 261 5800

March 19, 1987

Mr. Robert Kriegel
Florida Department of
Environmental Resources
Northwest District
160 Government Center
Pensacola, FL 32501

Dear Mr. Kriegel:

I am writing you as directed by Mr. Jack Preece to request permission from your office to burn 510 TPD of Municipal Solid Waste (MSW) during the upcoming acceptance test and emission compliance tests at the Bay County Resource Recovery Facility. The acceptance test will be conducted to verify capacity, electricity generated, and ash burnout values as guaranteed by the contract between Westinghouse Electric Corporation and the Bay County Resource Authority.

The permit issued by Florida DER, AC03-84703, states that the facility can burn a maximum of 350 TPD of MSW. However, the third party engineer for the Bay County Resource Authority, Roy F. Weston, Inc., has stipulated that the facility must be operated at 100% capacity during the acceptance test. The acceptance test period will run from approximately March 25 through April 10, 1987. The emission compliance tests are to be performed in that period and are scheduled to run from April 5 through April 8, 1987. The acceptance test period includes time for combustor/boiler warm-up, combustion stabilization, acceptance testing and emission compliance testing. The emission compliance tests will be conducted using EPA Reference Methods 5 and 9 and will be conducted to demonstrate compliance with the permit conditions for particulate matter concentration of less than 0.03 gr/dscf. The acceptance test and compliance tests will be conducted on a one-time basis; therefore, the facility will only burn 510 TPD MSW during this test period.

March 19, 1987

If you have any questions regarding this request, please call me at (412) 636-5806 or Milton Kirkpatrick at (904) 785-7933. We look forward to hearing from you shortly.

Sincerely,

Mick Pomjela Sr

D. S. Beachler, Manager
Environmental and Quality Engineering

cc: G. Pennington - Bay County
M. Kirkpatrick - Bay County

/kjd
0379MM-069E-2

ENG:DSB:87-130

-3-

March 19, 1987

bcc: W. G. Collins
J. J. Ludwig
J. J. Zebroski
William Thomas - Florida DER

DER

MAR 23 1987

BAQM

PM
3-20-87
Pittsburg, PA

Main File
PSD-FL-103
Bay County RRF

TO ALL BCC'S OF LETTER NO. ENG:DSB:87-130 DATED MARCH 19, 1987:

Please disregard the first version of this letter that you received (to Mr. Robert Kriegel of the Florida Department of Environmental Resources). The letter had to be modified, but unfortunately it was too late to retrieve all cc and bcc addressees as the mail had already gone out.

To determine which is the first version and which is the second version--the first version only had two pages, the second version has three pages.

Thank you,

Kathie Daschke
for Mick Pompelia

cc:
Pradeep Ranal }
Barry Andrews } 5/18/87 PRM

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

ROBERT V. KRIEGL
DISTRICT MANAGER

PETER CUNNINGHAM

February 5, 1987

Mr. Al Cape
Bay County Administrator
Post Office Box 1818
Panama City, Florida 32402

Dear Mr. Cape:

This acknowledges your advising us that the Bay Resources Management Center will be ready for start-up and testing commencing February 9, 1987. We commend Bay County for this effort and look forward to the operation of this plant as a regional resource recovery facility.

We have been advised by Westinghouse that they plan approximately three months of start-up and debugging of the plant and will conduct acceptance tests in May 1987. We concur that this schedule is reasonable, and is well within the permit conditions for that plant.

I am issuing the construction permit today for the new Steelfield Road landfill which will receive the ash from the resource recovery facility. Since the resource recovery facility will have to be tested at its full rated capacity burning solid waste, it obviously will be necessary to dispose of the ash from that burning at a site other than Steelfield Road if the startup schedule is to be maintained. You have requested our approval to dispose of that ash at the Majette South temporary landfill.

Approval is granted to dispose of the ash at Majette South from February 9, 1987 until the Steelfield Road landfill is constructed, or until May 31, 1987, whichever occurs first, under the following conditions:

- a. Disposal must conform to the closure plan approved by the Department on March 11, 1985.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Barry

Initial

Date

2.

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

Fyi is file. Looks like they may come in for some increase in trash & decrease in woodlate this year.

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Clan

DATE

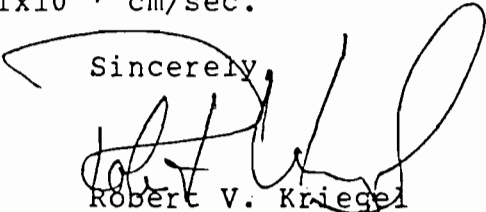
3/12

PHONE

Mr. Al Cape
Page two

- b. Any area used for ash disposal must first be underlain with a 12" layer of clay-bentonite mixture, compacted in two lifts to 90% Proctor, and tested to ensure a maximum in-place saturated hydraulic conductivity of 1×10^{-7} cm/sec.

Sincerely,



Robert V. Kriegel
District Manager

RVK/tmf

cc: Russell R. Stewart, Esq.
Karen Brodeen, Esq.
Les W. Burke, Esq.
~~Milton Kirkpatrick~~

BRIEFING REPORT
BAY COUNTY SOLID WASTE MANAGEMENT

Prepared By:
Milton Kirkpatrick

AVERAGE DAILY
TONS WEIGHED
AT MAJETTE LANDFILL TRUCK SCALE

1983

300

1984

329

1985

385

1986

430

ANNUALLIZED WEIGHT DATA

FROM

TRUCK SCALE AT MAJETTE

TONS - M.S.W.

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Scale Installed March, 1983 First 12 Month's Data				
	109,500	120,388	140,636	156,844

ESTIMATED BURNABLE OR
"ACCEPTABLE" M.S.W. - TONS
75% OF ABOVE

	82,125	90,291	105,477	117,633
--	--------	--------	---------	---------

TRAFFIC FLOW
AT MAJETTE LANDFILL

MAXIMUM
DAILY VEHICLES

15 - 20

County Semi-Trailers 75 Cubic Yard
Capacity Approximately 20 Ton Per
Load From 2 Transfer Stations

30 - 35

Private Hauler Packer Trucks
Residential - Commercial M.S.W.

35 - 40

Private Hauler - Roll-Off Containers-
Mostly Containing Construction Debris

45 - 50

Other Weighed Vehicles
Flat Bed Trucks
2-Wheel & 4-Wheel
Trailers
Mostly Limbs-Tree & Shrub Trimmings

40 - 50

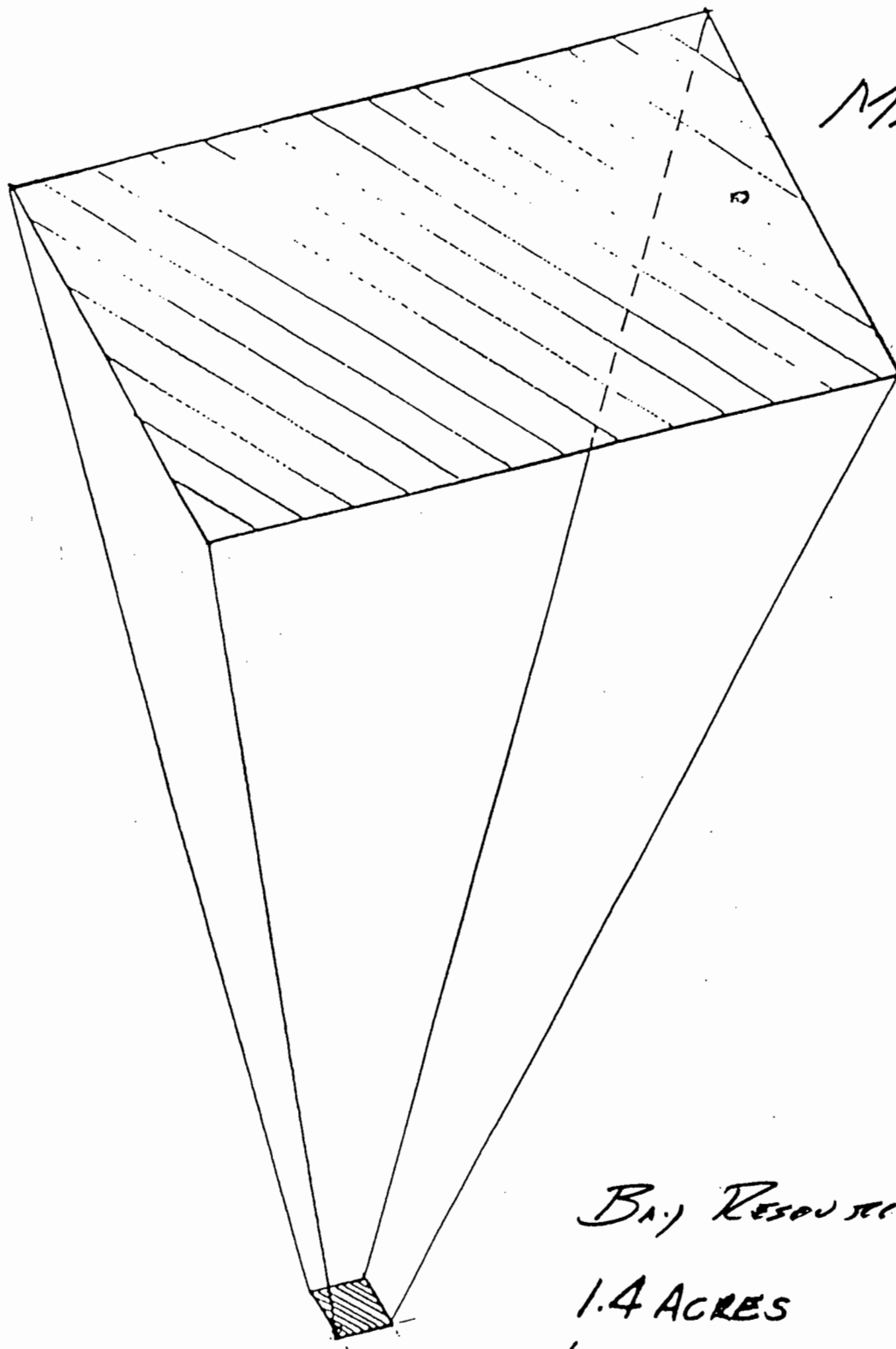
Non Weighed Vehicles
Pick-Ups, Sedans, Station Wagons

165-195 TOTAL

BUILDING ACTIVITY
EVALUATIONS OF COMMERCIAL
AND RESIDENTIAL ACTIVITY
BAY COUNTY

<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
\$65,099,864	\$71,056,214	\$79,479,493	\$60,379,310

From Frances Burgess,
Bay County Building Department



MAJETTE
400 ACRES

BAJ RESOURCE MGMT CTR.
1.4 ACRES
(.33% OF 400 ACRES)

PLANT CAPACITY
TONS PER YEAR
M.S.W. & EQUIVALENT
WOOD WASTE

NAMEPLATE	(510 T.P.D.)		186,150
GOAL -	(466 T.P.D.)	91%	170,000
GUARANTEE	(433 T.P.D.)	85%	158,000

PERTINENT

FACT SHEET

- Estimates Indicate Approximately 25% of Weighed Material Can Be Classified as Non-Acceptable Waste for the Bay Resource Management Center.

Examples Are Construction Debris - Oyster Shells & Fish Entrails, Carcasses, White Goods, Appliances, Bed Springs, Furniture, Metal "Junk", 55 Gal Drums, Mufflers, Etc.

- The Capacity of Both Transfer Stations is Fully Utilized- Although the Beach Transfer Station is at Capacity Only in Summer Season.
- Present Volume of Traffic at Majette Cannot be Handled by Plant.
- Determination of "Unacceptable" Waste Will Best be Determined by County Solid Waste Department Prior to Material being Directed to Plant.
- Some Consolidation of Burnable Trash Should be Done by County Solid Waste Department to Provide Larger Loads to Plant.
- Relocation of Individual Trash Dumping, i.e., Autos, Pick-ups, etc. to Other Sites Than Plant Should be Done by County.
- Increases in Solid Waste Tonnage Since 1983 May Well Represent Increases in Construction Activity Since 1983 Rather Than Population Growth.



Westinghouse
Electric Corporation

ENG:DSB:87-018

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania
(412) 636 5800
WIN 261 5800

January 23, 1987

DER
JAN 29 1987
BAQM

Mr. William Thomas
Florida Department of
Environmental Regulation (DER)
Bureau of Air Quality
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Thomas:

We are writing you with regard to DER Permits No. AC03-84703 and AC03-84704. We are currently beginning the start-up and equipment shakedown period for the Bay County Waste-to-Energy Facility located in Panama City, Florida. We anticipate that this activity will last approximately 2 to 4 months. Permits AC03-84703 and AC03-84704 will expire March 31, 1987. We may not be able to have environmental compliance tests performed until sometime in April or May, 1987. Therefore, we request that you grant an extension of 6 months to allow us to properly bring this facility on-line before performing the compliance tests and completing the applications to obtain operating permits.

If you have any questions, or need any additional information, please call me at (412) 636-5806.

Sincerely,

D. S. Beachler, Manager
Environmental and Quality Engineering

/kjd
0293MM-069E:17

cc: Al Cape, Bay County Commissioner
John Zebroski, Westinghouse RESD
Greg Pennington, Westinghouse RESD
Jack Ludwig, Westinghouse RESD

Westinghouse
Electric Corporation

Cost Building
2400 Ardmore Boulevard
Pittsburgh PA 15221

Resource Energy Systems
Division

D. Beachler



Mr. William Thomas
Florida Department of Environmental Regulation (DER)
Bureau of Air Quality
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32301



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

October 2, 1986

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Nevin Zimmerman
County Attorney
Bay County, Florida
Board of County Commissioners
Post Office Box 1818
Panama City, Florida 32402

Dear Mr. Zimmerman:

Re: Request for Extension of Expiration Date of
Permit No. AC 03-84704

The department has received a request from Peter Cunningham to extend the expiration date of the above referenced state construction permit to March 31, 1988. After reviewing additional information supplied by the Northwest District office, the department will grant an extension of the expiration date to October 30, 1987, and the following shall be added or changed:

Expiration Date:

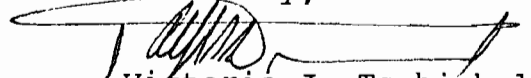
From: March 31, 1987
To: October 30, 1987

Attachments to be Incorporated:

7. Mr. P. C. Cunningham's letter dated July 9, 1986.
8. Mr. T. W. Moody's letter dated August 25, 1986.

This letter must be attached to your construction permit, AC 03-84704, and shall become a part of that permit.

Sincerely,


Victoria J. Tschinkel
Secretary

VJT/ks

cc: P. Cunningham, Esquire
Thomas Moody, P.E.

P 408 532 076

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Nevin Zimmerman	
Street and No.	
P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom, and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date 10/7/86	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983 447-845

● SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. Show to whom, date and address of delivery.

2. Restricted Delivery.

3. Article Addressed to:
Mr. Nevin Zimmerman
Bay County Board of Commissioners
P. O. Box 1818
Panama City, FL 32402

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured	P 408 532 076
<input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD	
<input type="checkbox"/> Express Mail	

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
X

6. Signature - Agent
X *Samson Scott*

7. Date of Delivery
OCT 8 1986

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794



DER
AUG 27 1986
BAQM

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ROBERT V. KRIEGLER
DISTRICT MANAGER

August 25, 1986

Mr. Milton E. Kirkpatrick
Westinghouse Electric Corporation
Resource Energy Systems Division
107 Music City Circle Suite 101
Nashville, Tennessee 37214

Dear Mr. Kirkpatrick;

This is in response to your August 18 letter concerning the construction of the Bay County Resource Recovery Facility. We are getting conflicting reports on the progress of this project.

The solid waste permit was issued March 11, 1985. Your application for permit stated a construction period of two years. If you commenced construction in October 1985, your scheduled completion date would have slipped to October 1987. However, we have been advised repeatedly that the project is ahead of schedule, and as recently as a May 12, 1986 County Commission meeting the plant was expected to be on-line by May 1987. This date was made a significant part of the settlement stipulation with concerned citizens of Bay County which was executed in July 1986. We are deeply concerned over any actions that may affect that stipulation.

In view of this, I don't feel I can recommend the extension you request. A ten-month slippage in construction will be recognized and I will recommend extension of the permits until October 30, 1987.

Sincerely,

Thomas W. Moody, P.E.
Special Programs Supervisor

TWM/tmf

cc: Mr. Nevin Zimmerman
Mr. Al Cape

bc: Ed Svec

BEST AVAILABLE COPY



Westinghouse
Electric Corporation

Resource Energy Systems
Division

107 Music City Circle Suite 101
Nashville Tennessee 37214
(615) 883 0078

August 18, 1986

State of Florida
Department of Environmental Regulation
Northwest District
160 Government Street
Pensacola, FL 32501-5794

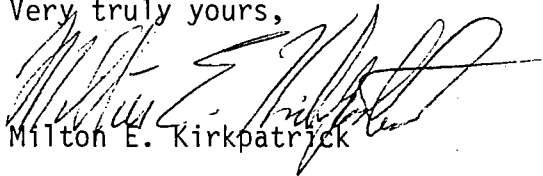
Attention: Mr. Thomas W. Moody, P.E.
Special Programs Supervisor

Dear Tom:

Reference your letter dated August 5, 1986 on our extension request. I should like to reply. The Bay County Resource Recovery Bonds were sold in December, 1984. We fully intended in all our early planning to start construction in 1984. The bond underwriters, bond counsel, and the numerous entities involved in the financing, held the bonds in escrow until approximately October, 1985. We broke ground in October, 1985. This was a ten (10) month delay in our construction start. In short, this is the reason for our extension request.

Please advise if we may provide further information.

Very truly yours,


Milton E. Kirkpatrick

MEK:ss

cc: Mr. Nevin Zimmerman
Mr. Al Cape
Mr. John Zebroski
Mr. Jim Bohlig
Mr. Mike Lindsey

RECEIVED

AUG 21 1986

NORTHWEST FLORIDA
DER

Board of County Commissioners

Bay County

OFFICE OF THE COUNTY ATTORNEYS
 303 MAGNOLIA AVENUE
 POST OFFICE BOX 70
 PANAMA CITY, FLORIDA 32402
 TELEPHONE (904) 769-1413
 TELECOPY (904) 784-0857

ATTORNEYS:
 BURKE & BLUE, P.A.
 LES W. BURKE
 NEVIN J. ZIMMERMAN

COMMISSIONERS:
 JOHN B. HUTT, JR.
 DISTRICT I
 HELEN INGRAM
 DISTRICT II
 ISAAC W. BYRD
 DISTRICT III
 M. B. MILLER
 DISTRICT IV
 TOMMY LOFTIN
 DISTRICT V

August 8, 1986

Mr. Thomas W. Moody, P.E.
 State of Florida
 Department of Environmental Regulation
 Northwest District
 160 Governmental Center
 Pensacola, Florida 32501

Re: Solid Waste Permit No. SC03-091036

Dear Tom:

This letter is to confirm that Bay County does wish to have an extension for one year on the above referenced permit. You received a letter dated July 25, 1986, from Milton E. Kirkpatrick, Project Advisor with Westinghouse Electric Corporation, concerning this matter and we concur with his request.

Any questions you have concerning this please feel free to deal directly with Mr. Kirkpatrick and, of course, me.

Sincerely yours,

Nevin J. Zimmerman
 Nevin J. Zimmerman

NJZ/art

RECEIVED

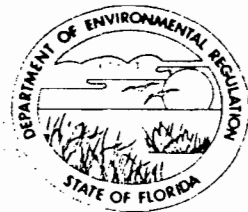
AUG 12 1986

NORTHWEST FLORIDA
 DER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794BOB GRAHAM
GOVERNORVICTORIA J. TSCHINKEL
SECRETARYROBERT V. KRIEDEL
DISTRICT MANAGER

August 5, 1986

Mr. Milton E. Kirkpatrick, P.E.
Westinghouse Electric Corporation
Resource Energy Systems Division
107 Music City Circle Suite 101
Nashville, Tennessee 37214

Dear Mr. Kirkpatrick:

This is in response to your July 25 letter concerning the Bay County Resource Recovery Plant. Before we can act on your extension request, we would like to know why the extension is necessary and what specific new schedule for completion you expect. One year sounds excessive.

Sincerely,

Thomas W. Moody, P.E.
Special Programs Supervisor

TWM/tmf

cc: Mr. Nevin Zimmerman
Mr. Al Cape
Mr. John Zebroski
Mr. Jim Bohlig
Mr. Mike Lindsey

bc: Mr. Clair Fancy



60101150-4

Westinghouse
Electric Corporation

Resource Energy Systems
Division

107 Music City Circle Suite 101
Nashville Tennessee 37214
(615) 883 0078

July 25, 1986

Mr. Thomas W. Moody, P.E.
State of Florida
Department of Environmental Regulation
Northwest District
160 Government Center
Pensacola, Florida 32501-5794.

Re: Solid Waste Permit No. SC03-091036
Dated March 11, 1985

Dear Mr. Moody:

Please note that the Bay County Resource Recovery plant is now approximately 60% physically complete. Although we hope to be in a pre-start or start-up mode by March 31, 1987, we will not have time to have this plant completed by March 31, 1987, which is the expiration date on this Permit.

Therefore, on behalf of the Bay County Board of County Commissioners, we request an extension of one year on this Permit. By copy of this letter I am requesting Mr. Nevin Zimmerman, Bay County Attorney, to confirm this.

For your information we have made a similar request regards our Air Permit with the Bureau of Air Quality Management.

Please advise if we can provide further information.

Very truly yours,


Milton E. Kirkpatrick, P.E.
Project Advisor

MEK:ss

cc: Mr. Nevin Zimmerman
Mr. Al Cape
Mr. John Zebroski
Mr. Jim Bohlig
Mr. Mike Lindsey

RECEIVED

JUL 30 1986

NORTHWEST FLORIDA
DER

Bill T. 7/10
Please handle

HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

CARLOS ALVAREZ
BRIAN H. BIBEAU
WILLIAM L. BOYD, IV
PETER C. CUNNINGHAM
WILLIAM H. GREEN
WADE L. HOPPING
RICHARD D. MELSON
WILLIAM D. PRESTON
GARY P. SAMS
ROBERT P. SMITH, JR.

DER

JUL 9 1986

BAQM

JAMES S. ALVES
KATHLEEN BLIZZARD
ELIZABETH C. BOWMAN
RICHARD S. BRIGHTMAN
ANNE W. CLAUSSEN
FRANK E. MATTHEWS
STEVEN A. MEDINA
CAROLYN S. RAEPPLE

OF COUNSEL
W. ROBERT FOKES

July 9, 1986

BY HAND DELIVERY

C. H. Fancy, P.E.
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 306
Tallahassee, Florida 32301

Re: Bay County Resource Recovery Plant
Unit No. 1 - Permit No. AC 03-84703
Unit No. 2 - Permit No. AC 03-84704

Dear Clair:

The referenced air construction permits, which were issued by the Department on September 26, 1984, include an expiration date of March 31, 1987. Representatives of the Bay County Board of County Commissioners have recently advised me that, while construction on the plant is progressing well, completion of the project will not be achieved by the current March 31, 1987 permit expiration date. On behalf of the Bay County Board of County Commissioners, I therefore request that the Department revise the referenced permits by changing the expiration date of each permit to March 31, 1988. This additional time is needed to allow completion of construction, startup, debugging, performance testing, analysis of test data and preparation of test reports.

Mr. Milton Kirkpatrick of Westinghouse Electric Corporation's Resource Energy Systems Division has also asked me to inform the Department of a slight change in the stack diameter from that indicated in the permit application for the Bay County Plant. The actual diameter of each of the two stacks will be 4.5 feet rather than 4 feet as originally stated. It does not appear that this slight change has any affect on the conclusions of the air quality impact analysis conducted in connection with the Department's permit review.

C. H. Fancy, P.E.
July 9, 1986
Page 2

Your consideration in this matter is much appreciated.
As always, please do not hesitate to call me if you or your
staff have any questions.

Sincerely,



Peter C. Cunningham

PCC/gb

cc: Ed Svec, DER BAQM
Nevin Zimmerman, Esquire, Bay County Attorney
Milton Kirkpatrick, Westinghouse
John Zebroski, Westinghouse

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION



Interoffice Memorandum

TO: Victoria J. Tschinkel

FROM: Clair Fancy *CAF*

DATE: October 2, 1986

SUBJ: Extension of Permits, AC 03-84703 and AC 03-84704
Bay County Resource Recovery Facility

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____	LOCN: _____
To: _____	LOCN: _____
To: _____	LOCN: _____
FROM: _____	DATE: OCT 2 1986

RECEIVED

Office of the Secretary

Attached for your approval and signature are two letters extending the expiration date of the above referenced permits.

CF/pa

Attachment

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION
INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

RECEIVED
MAY 23 1985

TO: Victoria J. Tschinkel
FROM: *for* Clair Fancy *Ad George*
DATE: May 22, 1985
SUBJ: Request to Transfer Permits AC 03-84703 and 84704
Bay County Energy Resources

Office of the Secretary

Attached for your signature are two letters authorizing the transfer of the above referenced permits to Bay County, Florida. The Bureau of Air Quality Management recommends that the modification be approved.

CHF/pa

Attachment

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

May 22, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Les W. Burke
County Attorney
Board of County Commissioners
Bay County
Post Office Box 1818
Panama City, Florida 32402

Dear Mr. Burke:

Re: Application for Transfer of Permit AC 03-84704

The department has received your request for the transfer of the above referenced state construction permit from Bay County Energy Resources to Bay County, Florida. The request for transfer is granted and the following shall be added or changed:

Permittee:

From: Bay County Energy Resources
c/o Westinghouse Waste
Technology Service Division
P. O. Box 286
Madison, PA 15663

To: Bay County, Florida
Board of County Commissioners
Post Office Box 1818
Panama City, Florida 32402

Attachment to be Incorporated:

6. L. W. Burke's letter, dated May 15, 1985, requesting Transfer of the permit to Bay County, Florida.

No. 0155564

RECEIPT FOR CERTIFIED MAIL

NO. SURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO		
Mr. Les W. Burke		
STREET AND NO.		
P.O., STATE AND ZIP CODE		
POSTAGE	\$	
CONSULT POSTMASTER FOR FEES OPTIONAL SERVICES RETURN RECEIPT SERVICE	CERTIFIED FEE	¢
	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
	SHOW TO WHOM AND DATE DELIVERED	¢
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		\$
POSTMARK OR DATE		
5/28/85		

PS Form 3800, Apr. 1976

Mr. Les Burke
Page Two
May 22, 1985

This letter must be attached to your construction permit,
AC 03-84703, and shall become a part of that permit.

Sincerely,


Victoria J. Tschinkel
Secretary

VJT/ks

cc: Bay County Energy Resources
Robert V. Kriegel
William H. Green, Esq.

attachments

Mr. Les Burke
Page Two
May 22, 1985

This letter must be attached to your construction permit,
AC 03-84704, and shall become a part of that permit.

Sincerely,


Victoria J. Tschinkel
Secretary

VJT/ks

cc: Bay County Energy Resources
Robert V. Kriegel
William H. Green, Esq.

attachments

Board of County Commissioners

Bay County

POST OFFICE BOX 1818
PANAMA CITY, FLORIDA 32402
PHONE: (904) 769-8306

May 15, 1985

DER

MAY 17 1985

BAQM

COMMISSIONERS:
JOHN B. HUTT, JR.
DISTRICT I
HELEN INGRAM
DISTRICT II
ISAAC W. BYRD
DISTRICT III
M. B. MILLER
DISTRICT IV
TOMMY LOFTIN
DISTRICT V



CERTIFIED MAIL #P 410 917 577
RETURN RECEIPT REQUESTED

Mr. C. H. Fancy, P.E.
Deputy Bureau Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Re: Bay County Resource Recovery Facility Air Construction
Permits: AC03-84703 & AC03-84704/Application for Transfer
of Permits

Dear Mr. Fancy:

On behalf of the Board of County Commissioners of Bay County, Florida, I am herewith applying for the transfer of the above referenced permits from Bay County Energy Resources, "a Joint Venture," to Bay County, Florida. This application is being made pursuant to Florida Administrative Code Rule 17-4.12 and general condition #11 of each permit.

As you are aware, the Bureau of Air Quality Management received applications on March 26, 1984 for construction permits of two MSW-fired incinerators in Panama City, Florida. At the time of the applications, Bay County Energy Resources, "a Joint Venture", was stated to be an investor which would become the legal owner of the capital facility, and accordingly became the permittee.

Thereafter, however, Bay County, acting by and through its Board of County Commissioners, determined that the County itself would publicly finance the project in its own name. Thus, the permit should now be transferred to the name of Bay County, Florida as permittee. Of course, Bay County will insure that construction of the facility shall be in accordance with the conditions of the above referenced permit to which it agrees to be bound.

Thanking you for your cooperation, I remain

Very truly yours,

Les W. Burke
County Attorney

LWB/dk

cc: William H. Green, Esq.

Fred Pollier

"For Public Service"



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

NOV 06 1984

REF: 4AW-AM

DER

NOV 9 1984

BAQM

Mr. C.H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

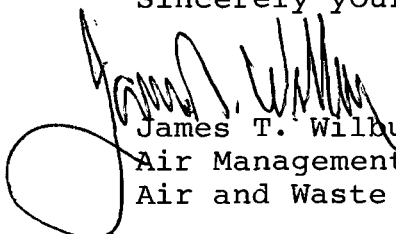
RE: PSD-FL-099, Bay County Energy Resource

Dear Mr. Fancy:

This is to acknowledge receipt of your September 26, 1984, letter containing the final determination and permit for the above company's municipal solid waste/electric generating facility to be located near Panama City, Florida.

By letter dated October 1, 1984, we notified you that the preliminary determination for the above company was selected for review under the Region IV Overview of State Programs policy. Since the final determination was issued prior to your receiving our October 1, 1984, letter, we suggest that future permits contain emission limits and compliance testing provisions for each pollutant subject to review under regulations for Prevention of Significant Deterioration.

Sincerely yours,


James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OCT 30 1984

DER
NOV 2 1984
BAQM

REF: 4AW-AM

Mr. C.H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

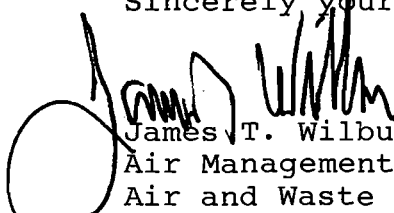
RE: PSD-FL-099, Bay County Energy Resource

Dear Mr. Fancy:

This is to acknowledge receipt of your September 26, 1984, letter containing the final determination and permit for the above company's municipal solid waste/electric generating facility to be located near Panama City, Florida.

By letter dated October 1, 1984, we notified you that the preliminary determination for the above company was selected for review under the Region IV Overview of State Programs policy. Since the final determination was issued prior to your receiving our October 1, 1984, letter, we suggest that future permits contain emission limits and compliance testing provisions for each pollutant subject to review under regulations for Prevention of Significant Deterioration.

Sincerely yours,


James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division

5175: State of Florida
Department of
Environmental Regulation
Notice of Proposed
Agency Action
on Permit Application
The Department of Environmental Regulation gives notice of its intent to issue permits to Bay County Energy Resources to construct two 65.6 million Btu incinerators that will burn municipal solid waste and wood wastes. The project location is approximately eight miles from the center of Panama City on U.S. Highway 231. A determination of best available control technology (BACT) was required.

Florida Freedom Newspapers, Inc.

PUBLISHERS OF THE NEWS - HERALD
Panama City, Bay County, Florida
Published Daily

State of Florida
County of Bay

Before the undersigned authority appeared Kaye Nichols, who on oath says that (s)he is Advertising Director of the News-Herald, a daily newspaper published at Panama City, in Bay County, Florida; that the attached copy of advertisement, being a Legal Notice in the matter of Intent to Issue in the Bay County Court, was published in said newspaper in the issues of August 9, 1984

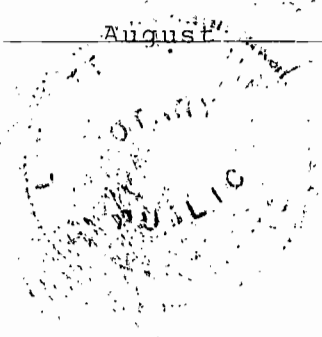
Affiant further says that the News-Herald is a direct successor of the Panama City News and that this publication, together with its direct predecessor, has been continuously published in said Bay County, Florida, each day (except that the predecessor, Panama City News, was not published on Sundays), and that this publication, together with its said predecessor, has been entered as a second class mail matter at the post office in Panama City in said Bay County, Florida, for a period of one year next preceding the first publication of the attached copy of the advertisement, all in accordance with the provisions of section 49.03, Florida Statutes; and affiant further says that (s)he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Kaye Nichols

Sworn to and subscribed before me this 9th day of August, A. D., 1984

Lauretta J. Quast

Notary Public, State of Florida
My Commission Expires Aug. 14, 1988
Bonded Thru Troy Fain - Insurance, Inc.



This application was reviewed under Florida Administrative Code Rule 17-2.500, Prevention of Significant Deterioration. Emissions of air pollutants, in tons per year, will increase by the following amounts:
PM: 50; SO2 192; NOX: 214; CO: 1010; HC: 78; Pb: 0.3
The maximum percentages of allowable PSD increments consumed by the proposed project will be as follows:
Class I: PM: Annual 2; 24-Hour 2; 3-Hour N/A; SO2: Annual 1; 24-Hour 12; 3-Hour 12.
Class II: PM Annual 1; 24-Hour 5; 3-Hour N/A; SO2: Annual 3; 24-Hour 7; 3-Hour 4.
Persons whose substantial interests are affected by the department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.
If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this preliminary statement. Therefore, persons who may not object to the proposed agency action may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of

Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays at:

Dept of Environmental Regulation
Northwest District
106 Governmental Center
Pensacola, Florida 32501

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

DER, Northwest District
Branch Office
217 E. 23rd St., Suite B
Panama City Florida 32405

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

RULES OF THE
ADMINISTRATIVE
COMMISSION
MODEL RULES OF
PROCEDURE
CHAPTER 28-5

DECISIONS DETERMINING
SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal
and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

Aug. 9, 1984

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

July 27, 1984

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. F. A. Pollier
Project Manager
Westinghouse Waste Technology Services Division
Post Office Box 10864
Pittsburgh, Pennsylvania 15236

Dear Mr. Pollier:

Attached is one copy of the Technical Evaluation and Preliminary Determination, and proposed permits to construct two MSW-fired incinerators in Panama City, Florida.

Before final action can be taken on your draft permits, you are required by Florida Administrative Code Rule 17-103.150 to publish the attached Notice of Proposed Agency Action in the legal advertising section of a newspaper of general circulation in Bay County no later than fourteen days after receipt of this letter. The department must be provided with proof of publication within seven days of the date the notice is published. Failure to publish the notice may be grounds for denial of the permits.

Please submit, in writing, any comments which you wish to have considered concerning the department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

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

CHF/pa

Attachments

cc: Robert V. Kriegel
Peter Cunningham
Alan Richter
James Wilburn

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter on an)
Application for Permit by:)
Bay County Energy Resources) DER File No. AC 03-84703
c/o Westinghouse Waste) AC 03-84704
Technology Service Division)
Post Office Box 286)
Madison, Pennsylvania 15663)

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and proposed order of issuance for, a permit pursuant to Chapter 403, Florida Statutes for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Bay County Energy Resources, applied on March 26, 1984, to the Department of Environmental Regulation for permits to construct two incinerators to burn municipal solid waste and wood wastes at a location approximately eight miles from the center of Panama City, Florida on U.S. Highway 231.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The applicant was officially notified by the Department that an air construction permit was required for the proposed work.

This intent to issue shall be placed before the Secretary for final action unless an appropriate petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes, is filed within fourteen (14) days from receipt of this letter or

publication of the public notice (copy attached) required pursuant to Rule 17-103.150, Florida Administrative Code, whichever occurs first. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code (copy attached) and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301.

Petitions which are not filed in accordance with the above provisions are subject to dismissal by the Department. In the event a formal hearing is conducted pursuant to Section 120.57(1), all parties shall have opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witness and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exception to any order or hearing officer's recommended order, and to be represented by counsel. If an informal hearing is requested, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition, may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of

Administrative Hearings, 2009 Apalachee Parkway, Tallahassee,
Florida 32301. If no hearing officer has been assigned, the
petition is to be filed with the Department's Office of General
Counsel, 2600 Blair Stone Road, Tallahase, Florida 32301.
Failure to petition to intervene within the allowed time frame
constitutes a waiver of any right such person has to request a
hearing under Section 120.57, Florida Statues.

Executed the 27 day of July, 1984, in Tallahassee,
Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

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

Copies furnished to:

Robert V. Kriegel
Peter Cunningham
Alan Richter
James Wilburn

PS Form 3811, Jan. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

Show to whom and date delivered. C

Show to whom, date and address of delivery. C

RESTRICTED DELIVERY
Show to whom and date delivered. C

RESTRICTED DELIVERY.
Show to whom, date, and address of delivery. C

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
F.A. Pollier
Project mgr
P.O. Box 10864
Pittsburgh PA 15236

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P408530307	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

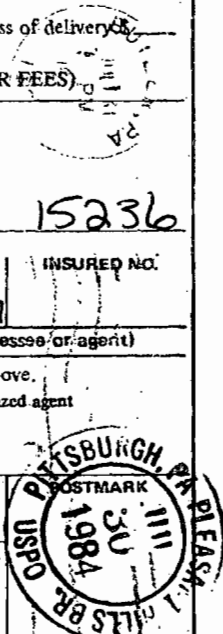
Stwards

4. DATE OF DELIVERY
7-30-84

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
mw



HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

SUITE 420, LEWIS STATE BANK BUILDING

POST OFFICE BOX 6526

TALLAHASSEE, FLORIDA 32314

(904) 222-7500

CARLOS ALVAREZ
BRIAN H. BIBEAU
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WILLIAM H. GREEN
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ELIZABETH C. BOWMAN
RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
FRANK E. MATTHEWS
STEVEN A. MEDINA
CAROLYN S. RAEPPE

OF COUNSEL
W. ROBERT FOKES

June 15, 1984

HAND CARRY

Mr. Clair Fancy
Deputy Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Koger Center
Montgomery Building, Room 100-8
Tallahassee, FL 32301

DER 6/18/84
JUN 18 1984
EBAQW

RE: Westinghouse Air Construction Permit Application
for Bay County Resource Recovery Facility;
AC03-84703 and AC03-84704.

Dear Mr. Fancy:

Enclosed please find the "Air Quality Evaluation for Bay County Resource Recovery Facility" submitted on behalf of Westinghouse Electric Corporation as part of the above-referenced air permit applications. This document, which was prepared by Southern Company Services, constitutes Attachment "J" to the air permit application filed with the Department by Westinghouse on May 25, 1984. The computer print-outs supporting the air quality modeling (Attachments 13, 14 and 15) are being provided only to Cleve Holladay.

With this submittal, the permit applications should now be complete. Your assistance in expediting the processing and issuance of the permits for this project would be much appreciated.

Thank you for your continued consideration in this matter.

Sincerely,


Peter C. Cunningham

PCC/ac
Enclosures

cc: Nancy Wright (w/enclosures except Attachments 13-15)
✓ Bob King (w/enclosures except Attachments 13-15)
Cleve Holladay (w/enclosures including Attachments 13-15)

AIR QUALITY EVALUATION FOR
BAY COUNTY RESOURCE RECOVERY FACILITY

Bay County Energy Resources, "A Joint Venture" proposes to construct a resource recovery facility in Bay County, Florida. This report represents an evaluation of the effect on air quality that would result from the operation of the new facility.

As shown in Tables 1 and 2 (Attachments 1 and 2), the results of the modeling for the source alone indicate that the predicted pollutant concentrations for the facility are less than significant impact levels except for sulfur dioxide; de minimis monitoring levels; Class II Prevention of Significant Deterioration (PSD) increments; and Class I PSD increments in the Class I Bradwell Bay area. Modeling with other SO₂ sources in the area indicates that the facility will not contribute to any violation of the National Ambient Air Quality Standards (NAAQS) in the area (Attachment 3). Air quality modeling for the proposed facility was performed with the air quality modeling procedures recommended in the EPA document Guideline on Air Quality Models, OAQPS No. 1.2-080, April 1978, and with the SCSTER model, which has been approved for use by the U.S. Environmental Protection Agency (EPA) as equivalent to the recommended EPA models CRSTER and MPTER (Attachment 4).

For the PSD modeling, a single source was assumed in the model with the exhaust characteristics given in Table 4 (Attachment 5). The emission rate for this source was hypothetical for the purpose of obtaining significant figures in the results printouts. Predicted concentrations were adjusted by emission rate ratio and by the number of stacks to correspond to the operation of the proposed facility. The modeling for evaluation of NAAQS attainment considered the sources described in Table 5 (Attachment 6) and used the emission rate for both stacks at the new facility. Five years (1965-1969) of meteorological data were used for the modeling: surface data from Panama city and upper air data from Eglin Air Source Base near Fort Walton. Receptor distances were selected with the PTPLU screening model, and a total of 11 receptor rings were used for the initial model runs, as shown in Table 6

(Attachment 7). For the PSD analysis, the maximum predicted concentrations and the highest, second highest predicted concentrations for the 3-hour and 24-hour averages were refined with receptor spacings of 0.1 km. A summary of the predicted concentrations for each of the five years of meteorological data is shown in Tables 7 and 8 (Attachments 8 and 9). For the NAAQS analysis of the area sources, a summary of the predicted concentrations for each of the five years of meteorological data is shown in Tables 9 and 10 (Attachments 10 and 11). Attachment 12 is the PTPLU model run; Attachment 13 is the 0.1 km refinement of the highest 1-hour (required for carbon monoxide), 3-hour and 24-hour predicted concentrations for each of the five meteorological years in the PSD analysis, respectively; and Attachment 14 is the initial 5-year model run for the single source PSD analysis. Attachment 15 is the 5 year model run for the multi-source NAAQS analysis.

Bryan Baldwin
Blanche M. McIntyre
Southern Company Services
June 13, 1984

TABLE 1
 AIR QUALITY MODELING RESULTS
 FOR BAY COUNTY RESOURCE RECOVERY FACILITY ALONE

<u>Pollutant</u>	<u>Averaging Time</u>	<u>Maximum* Predicted Concentration (μ/m^3)</u>	<u>Significant Impact Level (μ/m^3)</u>	<u>De Minimis Monitoring Level (μ/m^3)</u>	<u>Class II PSD Increment (μ/m^3)</u>
SO ₂	Annual	0.6	1	--	20
	24-Hour	6.5	5	13	91
	3-Hour	22.1	25	--	512
TSP	Annual	0.1	1	--	19
	24-Hour	1.7	5	10	37
NO ₂	Annual	0.7**	1	14	--
CO	8-Hour	74.2	500	575	--
	1-Hour	147.27	2000	--	--
Lead	24-Hour	0.01***	--	0.1	--

*Highest, second highest

**Assumes 100% conversion of NO_x to NO₂

***Maximum 24-hour average

TABLE 2
AIR QUALITY MODELING RESULTS
FOR BRADWELL BAY CLASS I AREA

<u>Pollutant</u>	<u>Averaging Time</u>	<u>Maximum* Predicted Concentration (μ/m^3)</u>	<u>Class I PSD Increment (μ/m^3)</u>
SO ₂	Annual	0.02	2
	24-Hour	0.6	5
	3-Hour	2.9	25
TSP	Annual	0.1	5
	24-Hour	0.2	10

*Highest, second highest

0295b

TABLE 3
 AIR QUALITY MODELING RESULTS
 FOR BAY COUNTY RESOURCE RECOVERY FACILITY AND OTHER SOURCES

<u>Pollutant</u>	<u>Averaging Time</u>	<u>Maximum* Predicted Concentration (μ/m^3)</u>	<u>Florida AAQS (μ/m^3)</u>	<u>NAAQS (μ/m^3)</u>
SO ₂	Annual	7.2	60	80
	24-Hour	116.9	260	365
	3-Hour	408.7	1300	1300
TSP**	Annual	1.86	60	75
	24-Hour	30.26	150	260
NO ₂ **	Annual	2.06	100	100
CO**	8-Hour	3003.1	10,000	10,000
	1-Hour	943.6	40,000	40,000
Lead**	24-Hour	0.2	1.5	1.5

*Highest, second highest

**Resource Recovery Facility only

3/18/82

Research Triangle Park, North Carolina 27711

Equivalent Air Quality Models

Signed

Joseph A. Tikvart, Chief
Source Receptor Analysis Branch (MD-14)

Chief, Air Programs Branch, Regions I-X

Some time ago, we agreed to provide an opportunity for model developers to demonstrate that their models are equivalent to EPA models. The intent was that a new justification for applying their models would not have to be made every time the models are used in a regulatory context. Several test data sets were prepared for a variety of source/climatic/topographic conditions that would allow a convincing demonstration of equivalency (see attachment). This demonstration has been successfully completed for three models. If other developers submit additional demonstrations to us, we will inform you of our review and decision.

SCSTER (Southern Company Services), PLUME5 (Pacific Gas and Electric Co.), and MPSDM (Environmental Research and Technology, Inc.) have all been shown to provide nearly identical estimates to recommended EPA models (CRSTER and MPTER) when specific options in these three models are implemented. Thus, the use of these models with the specific options that provide equivalent estimates should be acceptable for those situations discussed in the Guideline on Air Quality Models. I have not attempted to tabulate the specific options in question since that would require a lengthy listing. If your staff requires further specific information, please contact J. Dicke at FTS 629-5681.

The purpose of this memorandum is to document for you that these three models can be made to provide estimates consistent with those routinely calculated by your staff. However, this is not intended to be a general endorsement of these models. Obviously, if options other than those employed for the equivalency tests are used, a separate case-by-case demonstration is likely to be necessary.

Some further clarification is perhaps appropriate here. In part, due to the question of equivalency demonstrations, we have been criticized for requiring "numerical agreement" with EPA models before a nonguideline model can be used. This is simply not true. We have always maintained and have stated in the introduction to the Guideline that: "The preferred model is that which best simulates transport and dispersion in the area of interest. However, deviations from this guide should be fully supported and documented."

The purpose of the equivalency demonstration discussed above is to facilitate documentation for model developers who choose to use that mechanism. If you have any questions, please contact me.

Attachment

cc: Regional Modeling Contact, Regions I-X
 J. Dicke
 C. Hopper
 J. Mersch

bcc: ✓ B. Baldwin
 B. Egan
 M. Mooney
 R. Smith
 F. White

TABLE 4
DAY COUNTY RESOURCE RECOVERY FACILITY
STACK CHARACTERISTICS

SO ₂ Emission Rate:	22.1 lb/hr (2.78 g/s)
Particulate Matter Emission Rate:	5.72 lb/hr (0.7207 g/s)
NO _x Emission Rate:	24.5 lb/hr (3.087 g/s)
CO Emission Rate:	115.4 lb/hr (1.4540 g/s)
Lead Emission Rate:	0.0358 lb/hr (0.00451 g/s)
Stack Diameter:	4 ft. (1.22m)
Stack Exit Temperature:	400°F (477.6°K)
Stack Exit Velocity:	3403 fpm (17.3 m/s)

TABLE 5
BAY COUNTY EMISSIONS INVENTORY

	Height (m)	Dia. (m)	Exit Vel. (m/s)	Flow Rate (m ³ /s)	Exit Temp. (°K)	SO ₂ Emission Rate (g/s)
Southwest Forest Industries UTM 16 632.6 E 3335.1 N						
Recovery Boilers 1 & 2	73.3	2.0	24.51	77.0	440	36.54
Bark Boilers 3 & 4	62.4	2.4	24.01	108.62	349	67.38
Power Boiler 5	87.2	3.7	5.00	52.60	484	11.07
Power Boiler 6	73.4	2.4	25.81	120.69	532	26.78
Lime Kiln	18.2	2.0	10.28	32.30	365	1.50
Arizona Chemical UTM 16 633.1 E 3335.4 N						
Boilers 1 & 2	30.5	1.2	17.90	20.92	464	10.46
Lansing Smith UTM 16 625.2 E 3349.0 N						
Units 1 & 2	60.96	5.49	19.64	464.82	401	27.13

TABLE 6
 BAY COUNTY RESOURCE RECOVERY FACILITY
 RECEPTOR DISTANCES

<u>Receptor Distances Calculated From PTPLU</u>	<u>Receptor Distances Used in SCSTER Model</u>
	0.4 km*
0.474 km	0.5
0.616	0.6
	0.7*
0.806	0.8
1.090	1.1
1.422	1.4
1.850	1.9
2.465	2.5
3.223	3.2
4.266	4.3
	92.5**
	84.4**
	88.0**

*Additional receptors

**Receptors at Bradwell Bay Class I PSD area

TABLE 7
 BAY COUNTY RESOURCE RECOVERY FACILITY ALONE*
 MAXIMUM PREDICTED CONCENTRATIONS FOR SULFUR DIOXIDE

	<u>3-HOUR</u>	<u>24-HOUR</u>	<u>ANNUAL</u>
1965 Maximum	22.36 $\mu\text{g}/\text{m}^3$	6.68 $\mu\text{g}/\text{m}^3$	0.44 $\mu\text{g}/\text{m}^3$
Distance	0.6km	0.8km	1.1km
Direction	60°	10°	30°
Day	187	209	
1966 Maximum	22.64 $\mu\text{g}/\text{m}^3$	11.79 $\mu\text{g}/\text{m}^3$	0.44 $\mu\text{g}/\text{m}^3$
Distance	0.6km	1.7km	1.1km
Direction	80°	230°	70°
Day	186	21	
1967 Maximum	26.56 $\mu\text{g}/\text{m}^3$	6.72 $\mu\text{g}/\text{m}^3$	0.58 $\mu\text{g}/\text{m}^3$
Distance	0.5km	0.7km	0.8km
Direction	220°	60°	60°
Day	185	145	
1968 Maximum	25.06 $\mu\text{g}/\text{m}^3$	7.22 $\mu\text{g}/\text{m}^3$	0.58 $\mu\text{g}/\text{m}^3$
Distance	0.7km	0.8km	0.8km
Direction	80°	210°	60°
Day	140	156	
1969 Maximum	26.10 $\mu\text{g}/\text{m}^3$	6.66 $\mu\text{g}/\text{m}^3$	0.52 $\mu\text{g}/\text{m}^3$
Distance	0.5km	1.7km	0.8km
Direction	20°	60°	60°
Day	175	192	

*Two stacks, each with an emission rate of 22.1 lb/hr.

TABLE 8
 BAY COUNTY RESOURCE RECOVERY FACILITY ALONE*
 HIGHEST, SECOND HIGHEST PREDICTED CONCENTRATIONS FOR SULFUR DIOXIDE

	<u>3-Hour</u>	<u>24-Hour</u>
1965 High 2nd High	20.16 $\mu\text{g}/\text{m}^3$	5.06 $\mu\text{g}/\text{m}^3$
Distance	0.7km	0.8km
Direction	30°	60°
Day	163	188
1966 High 2nd High	19.66 $\mu\text{g}/\text{m}^3$	6.52 $\mu\text{g}/\text{m}^3$
Distance	0.6km	1.9km
Direction	60°	230°
Day	200	20
1967 High 2nd High	22.12 $\mu\text{g}/\text{m}^3$	6.32 $\mu\text{g}/\text{m}^3$
Distance	0.6km	1.9km
Direction	60°	330°
Day	215	111
1968 High 2nd High	20.68 $\mu\text{g}/\text{m}^3$	5.34 $\mu\text{g}/\text{m}^3$
Distance	0.6km	0.8km
Direction	20°	60°
Day	87	177
1969 High 2nd High	21.42 $\mu\text{g}/\text{m}^3$	5.96 $\mu\text{g}/\text{m}^3$
Distance	0.6km	1.9km
Direction	50°	230°
Day	210	303

*Two stacks, each with an emission rate of 22.1 lb/hr.

TABLE 9
 BAY COUNTY RESOURCE RECOVERY FACILITY AND OTHER SOURCES*
 MAXIMUM PREDICTED CONCENTRATIONS FOR SULFUR DIOXIDE

	<u>3-HOUR</u>	<u>24-HOUR</u>	<u>ANNUAL</u>
1965 Maximum	370.3 $\mu\text{g}/\text{m}^3$	112.7 $\mu\text{g}/\text{m}^3$	7.2 $\mu\text{g}/\text{m}^3$
Distance	3.2km	4.3km	4.3km
Direction	310°	300°	290°
Day	321	282	
1966 Maximum	354.7 $\mu\text{g}/\text{m}^3$	99.1 $\mu\text{g}/\text{m}^3$	7.2 $\mu\text{g}/\text{m}^3$
Distance	4.3km	4.3km	4.3km
Direction	20°	320°	280°
Day	185	96	
1967 Maximum	404.6 $\mu\text{g}/\text{m}^3$	91.8 $\mu\text{g}/\text{m}^3$	6.4 $\mu\text{g}/\text{m}^3$
Distance	3.2km	4.3km	4.3km
Direction	160°	250°	280°
Day	108	108	
1968 Maximum	401.0 $\mu\text{g}/\text{m}^3$	116.9 $\mu\text{g}/\text{m}^3$	6.6 $\mu\text{g}/\text{m}^3$
Distance	4.3km	4.3km	4.3km
Direction	20°	220°	330°
Day	229	62	
1969 Maximum	408.7 $\mu\text{g}/\text{m}^3$	108.1 $\mu\text{g}/\text{m}^3$	6.4 $\mu\text{g}/\text{m}^3$
Distance	1.1km	3.2km	4.3km
Direction	60°	280°	260°
Day	206	206	

*Two stacks, each with an emission rate of 22.1 lb/hr.

TABLE 10
 BAY COUNTY RESOURCE RECOVERY FACILITY AND OTHER SOURCES*
 HIGHEST, SECOND HIGHEST PREDICTED CONCENTRATIONS FOR SULFUR DIOXIDE

	<u>3-Hour</u>	<u>24-Hour</u>
1965 High 2nd High	297.1 $\mu\text{g}/\text{m}^3$	85.6 $\mu\text{g}/\text{m}^3$
Distance	4.3km	4.3km
Direction	30°	310°
Day	121	256
1966 High 2nd High	305.1 $\mu\text{g}/\text{m}^3$	6.52 $\mu\text{g}/\text{m}^3$
Distance	4.3km	1.9km
Direction	310°	310°
Day	91	194
1967 High 2nd High	322.5 $\mu\text{g}/\text{m}^3$	74.6 $\mu\text{g}/\text{m}^3$
Distance	3.2km	2.5km
Direction	270°	240°
Day	217	345
1968 High 2nd High	383.5 $\mu\text{g}/\text{m}^3$	82.1 $\mu\text{g}/\text{m}^3$
Distance	4.3km	2.5km
Direction	320°	240°
Day	302	106
1969 High 2nd High	305.1 $\mu\text{g}/\text{m}^3$	102.0 $\mu\text{g}/\text{m}^3$
Distance	1.4km	3.2km
Direction	40°	280°
Day	207	207

*Two stacks, each with an emission rate of 22.1 lb/hr.

VMRBHM14 D1955934 6/13/84 9:10:54 G.M.T. WAS THE ORIGIN

DEST: R5 FILE: 5991 NAME: PTPLU OUTPUT DIST: BLANCHE RECS: 00000096

PTPLU (VERSION 80364)
 AN AIR QUALITY DISPERSION MODEL IN
 SECTION 3. MODELS PROPOSED SEP80 FOR 81 GUIDELINES.
 IN UNAMAP (VERSION 4) DEC 80
 SOURCE: FILE 13 ON UNAMAP MAGNETIC TAPE FROM NTIS.

PTPLU TRIAL RUN BAY CO PROJECT 100%

>>>INPUT PARAMETERS<<<

SOURCE	***OPTIONS***	***METEOROLOGY***
EMISSION RATE = 2784.55 (G/SEC)	IF = 1, USE OPTION	AMBIENT AIR TEMPERATURE = 293.00 (K)
STACK HEIGHT = 38.10 (M)	IF = 0, IGNORE OPTION	ANEMOMETER HEIGHT = 7.00 (M)
STACK DIAM. = 1.22 (M)	IOPT(1) = 0 (GRAD PLUME RISE)	MIXING HEIGHT = 5000.00 (M)
EXIT VELOCITY = 17.29 (M/SEC)	IOPT(2) = 0 (STACK DOWNWASH)	WIND PROFILE EXPONENTS = A: .10, B: .15, C: .20
STK GAS TEMP = 477.59 (K)	IOPT(3) = 0 (BUOY. INDUCED DISP.)	D: .25, E: .30, F: .30
		RECEPTOR HEIGHT = 0.0 (M)

>>>CALCULATED PARAMETERS<<<

VOLUMETRIC FLOW = 20.21 (M**3/SEC) BUOYANCY FLUX PARAMETER = 24.38 (M**4/SEC**3)

ANALYSIS OF CONCENTRATION AS A FUNCTION OF STABILITY AND WIND SPEED

					****EXTRAPOLATED WINDS****			
STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)
1	0.50	1.0046E-02	0.971	508.3(2)	0.59	1.0573E-02	0.902	435.0(2)
1	0.80	1.1483E-02	0.794	332.0(2)	0.95	1.1964E-02	0.741	286.2(2)
1	1.00	1.2109E-02	0.724	273.2(2)	1.18	1.2538E-02	0.677	236.6(2)
1	1.50	1.3039E-02	0.617	194.8	1.78	1.3311E-02	0.580	170.4
1	2.00	1.3448E-02	0.555	155.6	2.37	1.3560E-02	0.523	137.3
1	2.50	1.3572E-02	0.514	132.1	2.96	1.3635E-02	0.474	117.5
1	3.00	1.3638E-02	0.472	116.5	3.55	1.3615E-02	0.442	104.3
					****EXTRAPOLATED WINDS****			
STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)
2	0.50	4.5095E-03	3.100	508.3(2)	0.64	5.3239E-03	2.506	402.8(2)
2	0.80	6.0848E-03	2.100	332.0(2)	1.03	7.0455E-03	1.716	266.0(2)
2	1.00	6.9255E-03	1.758	273.2(2)	1.29	7.9223E-03	1.445	220.4(2)
2	1.50	8.5178E-03	1.291	194.8	1.93	9.4794E-03	1.076	159.7
2	2.00	9.5997E-03	1.052	155.6	2.58	1.0430E-02	0.887	129.3
2	2.50	1.0338E-02	0.905	132.1	3.22	1.0999E-02	0.774	111.0
2	3.00	1.0836E-02	0.808	116.5	3.87	1.1316E-02	0.695	98.9
2	4.00	1.1358E-02	0.683	96.9	5.16	1.1495E-02	0.597	83.7
2	5.00	1.1496E-02	0.606	85.1	6.45	1.1344E-02	0.537	74.6
					****EXTRAPOLATED WINDS****			
STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)
3	2.00	8.0154E-03	1.906	155.6	2.81	9.2972E-03	1.458	121.9
3	2.50	8.8833E-03	1.593	132.1	3.51	9.9869E-03	1.239	105.1
3	3.00	9.5197E-03	1.387	116.5	4.21	1.0412E-02	1.095	93.9
3	4.00	1.0307E-02	1.134	96.9	5.61	1.0765E-02	0.919	80.0
3	5.00	1.0673E-02	0.983	85.1	7.02	1.0740E-02	0.815	71.6
3	7.00	1.0742E-02	0.817	71.7	9.82	1.0218E-02	0.697	62.0
3	10.00	1.0176E-02	0.691	61.6	14.03	9.1462E-03	0.609	54.9
3	12.00	9.6699E-03	0.643	57.7	16.84	8.4610E-03	0.575	52.1
3	15.00	8.9037E-03	0.595	53.8	21.05	7.5576E-03	0.541	49.3

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)
4	0.50	7.2574E-04	45.171	508.3(2)	0.76	1.3123E-03	23.082	345.9(2)
4	0.80	1.3919E-03	21.492	332.0(2)	1.22	2.3220E-03	11.193	230.5(2)
4	1.00	1.8339E-03	15.131	273.2(2)	1.53	2.9397E-03	8.463	192.0
4	1.50	2.8875E-03	8.672	194.8	2.29	4.2367E-03	5.062	140.7
4	2.00	3.7779E-03	5.987	155.6	3.05	5.2418E-03	3.628	115.1
4	2.50	4.5392E-03	4.554	132.1	3.82	5.9857E-03	2.946	99.7
4	3.00	5.1786E-03	3.692	116.5	4.58	6.4765E-03	2.482	89.4
4	4.00	6.1180E-03	2.814	96.9	6.11	7.0506E-03	1.951	76.6
4	5.00	6.6799E-03	2.300	85.1	7.64	7.2797E-03	1.653	68.9
4	7.00	7.2148E-03	1.760	71.7	10.69	7.2282E-03	1.335	60.1
4	10.00	7.2760E-03	1.389	61.6	15.27	6.6992E-03	1.114	53.5
4	12.00	7.1050E-03	1.254	57.7	18.33	6.2862E-03	1.031	50.9
4	15.00	6.7358E-03	1.124	53.8	22.91	5.6849E-03	1.000	48.4
4	20.00	6.0647E-03	1.000	49.9	30.55	4.7987E-03	0.973	45.8

****EXTRAPOLATED WINDS****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)
5	2.00	6.1925E-03	6.578	106.5	3.32	4.9913E-03	5.337	95.8
5	2.50	5.6459E-03	5.988	101.6	4.16	4.5140E-03	4.876	91.7
5	3.00	5.2216E-03	5.569	97.9	4.99	4.1468E-03	4.558	88.5
5	4.00	4.5937E-03	4.957	92.4	6.65	3.6091E-03	4.099	83.9
5	5.00	4.1419E-03	4.549	88.5	8.31	3.2192E-03	4.000	80.6

****EXTRAPOLATED WINDS****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	EFFECT HT (M)
6	2.00	4.6760E-03	14.132	94.9	3.32	3.8252E-03	11.141	86.0
6	2.50	4.2926E-03	12.742	90.8	4.16	3.4786E-03	10.093	82.6
6	3.00	3.9907E-03	11.681	87.7	4.99	3.2089E-03	9.312	80.0
6	4.00	3.5368E-03	10.242	83.2	6.65	2.8089E-03	8.278	76.1
6	5.00	3.2052E-03	9.314	79.9	8.31	2.5210E-03	7.568	73.4

- U (1) THE DISTANCE TO THE POINT OF MAXIMUM CONCENTRATION IS SO GREAT THAT THE SAME STABILITY IS NOT LIKELY TO PERSIST LONG ENOUGH FOR THE PLUME TO TRAVEL THIS FAR.
- U (2) THE PLUME IS OF SUFFICIENT HEIGHT THAT EXTREME CAUTION SHOULD BE USED IN INTERPRETING THIS COMPUTATION AS THIS STABILITY TYPE MAY NOT EXIST TO THIS HEIGHT. ALSO WIND SPEED VARIATIONS WITH HEIGHT MAY EXERT A DOMINATING INFLUENCE.
- U (3) NO COMPUTATION WAS ATTEMPTED FOR THIS HEIGHT AS THE POINT OF MAXIMUM CONCENTRATION IS GREATER THAN 100 KILOMETERS FROM THE SOURCE.

State of Florida
 Department of Environmental Regulation
 Notice of Proposed Agency Action
 on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue permits to Bay County Energy Resources to construct two 65.6 million Btu incinerators that will burn municipal solid waste and wood wastes. The project location is approximately eight miles from the center of Panama City on U.S. Highway 231. A determination of best available control technology (BACT) was required.

This application was reviewed under Florida Administrative Code Rule 17-2.500, Prevention of Significant Deterioration. Emissions of air pollutants, in tons per year, will increase by the following amounts:

<u>PM</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>HC</u>	<u>Pb</u>
50	192	214	1010	78	0.3

The maximum percentages of allowable PSD increments consumed by the proposed project will be as follows:

	<u>Annual</u>	<u>24-Hour</u>	<u>3-Hour</u>
<u>Class I</u>			
PM	2	2	N/A
SO ₂	1	12	12
<u>Class II</u>			
PM	1	5	N/A
SO ₂	3	7	4

Persons whose substantial interests are affected by the department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this preliminary statement. Therefore, persons who may not object to the proposed agency action may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer is one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Regulation
Northwest District
106 Governmental Center
Pensacola, Florida 32501

DER, Northwest District
Branch Office
217 E. 23rd St., Suite B
Panama City, Florida 32405

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

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.
- (2) All petitions filed under these rules should contain:
 - (a) The name and address of each agency affected and each agency's file or identification number, if known;
 - (b) The name and address of the petitioner or petitioners;
 - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
 - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
 - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
 - (f) A demand for the relief to which the petitioner deems himself entitled; and
 - (g) Such other information which the petitioner contends is material.

Preliminary Determination
and
Technical Evaluation

Bay County Energy Resources
Resource Recovery Facility
Units No. 1 and 2
Panama City, Bay County

Permit Number

AC 03-84703
AC 03-84704

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

July 27, 1984

Preliminary Determination
and
Technical Evaluation

Table of Contents

<u>Section</u>	<u>Page</u>
I. Applicant and Source Location.....	1
II. Project Description.....	1
III. Emissions and Controls.....	2
IV. Rule Applicability.....	2
V. Control Technology Review.....	2 & 3
VI. Air Quality Impact Analysis.....	3 - 5
VII. Conclusions.....	5

I. Applicant and Source Location

A. Applicant

Bay County Energy Resources
c/o Westinghouse Waste Technology Service Division
Bay County Waste-To-Energy Project
Post Office Box 286
Madison, Pennsylvania 15663

B. Source Location

The proposed construction will occur at a new plant site located in the Industrial Park on U.S. Highway 231, approximately eight miles from the center of Panama City, Florida. The UTM coordinates are: Zone 16, 644.1 km east and 3348.9 km north.

II. Project Description

The proposed project involves the construction of a resource recovery facility that will generate electric power by burning municipal solid waste (MSW) generated within Bay County. The facility will consist of two O'Connor RC 120 combustor units with provision for future addition of a third unit. Capacity of the facility will be 350 tons per day of municipal waste plus 135 tons per day of waste wood and bark which will be used as a supplemental fuel to maximize plant capacity factor and revenues. The average fuel consumption per day will be 300 tons MSW and 178 tons wood wastes. Steam produced in the two incinerators will be used to generate electrical energy by turbine generators. The electrical energy will be sold to Gulf Power Company. Design of the facility will provide for future steam sales for manufacturing or other uses in the adjacent industrial park.

Electrostatic precipitators are proposed for control of particulate emissions from the incinerators. This choice is based upon successful operating experience with this control technology in resource recovery facilities utilizing waterwall boilers for the incineration of municipal solid waste in Nashville, Tennessee; Saugus, Massachusetts; Hampton, Virginia; and Pinellas County, Florida. The design criteria for particulate emissions from the precipitators will be 0.02 grain per standard cubic foot, corrected to 12% CO₂. This represents a particulate removal efficiency of approximately 99%.

The bottom ash and fly ash generated will be mixed and transported to the Bay County landfill. All liquid wastes, including cooling tower blowdown, boiler blowdown, ash quench water overflow, excess cooling water, sanitary waste, and plant washdown water, will be pretreated and discharged through sanitary sewers to the Bay County Sewage Treatment Plant.

III. Emissions and Controls

The major air pollutant emitted from the resource recovery facility will be particulate. The proposed precipitators will reduce particulate emissions for each incinerator from 429 pounds per hour to 5.7 pounds per hour. The precipitators will also reduce lead emissions for each incinerator from 2 pounds per hour to 0.036 pound per hour.

The projected air pollutant emissions from both units are listed as follows:

<u>Regulated Pollutant</u>	<u>Maximum lb/hr</u>	<u>tons/year</u>
Particulate, PM	11.4	50
Sulfur Dioxide, SO ₂	44.2	192
Nitrogen Oxides, NO _x	48.8	214
Carbon Monoxide, CO	230.8	1010
Hydrocarbons, HC	18.0	78
Lead, Pb	0.072	0.3

IV. Rule Applicability

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code (FAC).

The proposed facility is located in an attainment area for all regulated air pollutants. This type of facility is one of the major facility categories listed in Table 500-1, Rule 17-2.500, and, therefore, would require new source review under this rule if any pollutant would have potential emissions equal to or greater than 100 tons per year. Specifically, the project is subject to the provisions of Rule 17-2.500, Prevention of Significant Deterioration (PSD), which requires an air quality impact analysis and the use of Best Available Control Technology (BACT). All regulated air pollutants from this facility, except hydrocarbons and lead, PSD are subject to PSD review because the total emission rate of each pollutant is greater than the significant emission rate as listed in Table 500-2, Rule 17-2.500.

Each of the two incinerators will have a charging rate of more than 50 tons per day; therefore, they are subject to the provisions of 40 CFR 60.50, Subpart E - Standards of Performance for Incinerators. The particulate emission limit required by the Standards is 0.08 gr/dscf, corrected to 12 percent CO₂.

V. Control Technology Review

Electrostatic precipitators (ESPs) have been proposed by the applicant for the two incinerators, which will reduce particulate emissions to 0.02 gr/dscf, corrected to 12 percent CO₂. The baghouse is another control device capable of achieving the BACT particulate emission limit of 0.03 gr/dscf. The applicant

proposed to use precipitators because ESPs have been widely used by resource recovery facilities.

The department has determined that SO₂ emissions will be limited by fuel type and fuel quantity. That means only municipal solid waste and wood wastes will be allowed for firing, and the maximum municipal solid waste will be limited to 350 tons per day for the two incinerators. Test data obtained from existing Florida MSW incinerators indicate that SO₂ emissions are less than the SO₂ emissions from the combustion of distillate oil containing 0.3% sulfur.

During combustion of municipal solid waste, NO_x is formed in high temperature zones in and around the furnace flame by oxidation of atmospheric nitrogen and nitrogen in the waste. The two primary variables that affect the formation of NO_x are temperature and concentration of oxygen. The proposed incinerators are designed to provide intimate mixing of the tumbling waste and combustion air. The need for high excess air is minimized to 50%. The low excess air requirement and high moisture content of the fuel will limit NO_x emissions. The department has determined that the proposed fuel type and combustor design are BACT for NO_x emissions.

Carbon monoxide is a product of incomplete combustion due to deficient air. Incomplete combustion will cause the loss of heat energy to boilers. Since CO emissions represent lost heat energy, thereby affecting the return on investment, the department believes that operators will try to minimize CO emissions for higher boiler efficiency. The department agrees with the applicant that BACT is underfire and overfire air supply to reduce CO emissions.

Lead emissions will occur from MSW incinerators because lead is present in the solid waste. The inlet temperature of the proposed ESP is estimated at 425-475 °F. In this temperature range, the lead emissions should be in a nonvaporous state and can be removed by the ESP.

The applicant has stated that no municipal sewage sludge will be fired in the proposed incinerators; therefore, there should be no mercury emissions to be limited by NESHAPS, the National Emission Standard for Hazardous Air Pollutants, 40 CFR 61.50, Subpart E.

VI. Air Quality Impact Analysis

As noted in Section IV., the operation of the proposed Bay County Resource Recovery Facility will result in significant emissions of PM, SO₂, NO_x, and CO. The air quality impact analysis required for these pollutants includes:

- o An analysis of existing air quality;
- o A PSD increment analysis;
- o An Ambient Air Quality Standards (AAQS) analysis;
- o An analysis of impacts on soils, vegetation, and visibility, and growth-related air quality impacts.

The analysis of existing air quality generally relies on preconstruction monitoring data collected in accordance with EPA-approved methods. The PSD increment and AAQS analyses depend on air quality modeling carried out in accordance with EPA guidelines.

Based on these required analyses, the department has reasonable assurance that the proposed resource recovery facility, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the modeling methodology and required analyses follows:

1. Modeling Methodology

The EPA-approved SCSTER dispersion model was used in the air quality impact analysis. This model was used to predict annual and short-term pollutant concentrations from the proposed resource recovery facility and all other sources in the vicinity of the proposed facility. Though not required, a modeling analysis of lead emissions from the proposed facility was also performed.

Receptor distances were selected with the EPA-approved PTPLU screening model. The maximum short-term impacts were refined with a 0.1 kilometer spacing between receptors for only the days on which worst-case meteorological conditions occurred.

The surface meteorological data used in the model were Air Weather Service data collected at Tyndall Air Force Base in Panama City, Florida, during the period 1965-1969. Upper air meteorological data used in the model were collected during the same time period at Eglin Air Force Base in Valparaiso, Florida. Final stack parameters and emission rates in evaluating the air quality impact of the proposed facility are in Table I.

2. Analysis of Existing Air Quality

In order to evaluate existing air quality in the area of a proposed project, the department may require a period of continuous preconstruction monitoring for any pollutant subject to PSD review.

However, since air quality modeling predicts that emissions of SO₂, PM, NO_x, CO, and Pb will result in ambient impacts less than the de minimis monitoring levels, no preconstruction monitoring is required for this project.

3. PSD Increment Analysis

The Bay County Resource Recovery Facility will be located in an area where the Class II increments apply. However, the Bradwell Bay National Wilderness Area is located approximately 90 kilometers east of the facility so an analysis of Class I impacts was also performed.

There are no other increment-consuming sources in the area. Modeling results shown in Table 2 predict that the proposed facility will not cause a violation of any Class I or Class II PSD increment. The highest, second-highest short-term predicted concentrations are given in the table since five years of meteorological data were used in the modeling.

4. Ambient Air Quality Standards Analysis

As shown in Table 3, modeling results predict that maximum ground level concentrations of PM, SO₂, NO_x, CO, and Pb will be considerably below all national (NAAQS) and state (FAAQS) ambient air quality standards. Modeling results predict that concentrations of PM, NO₂, and CO will be below significant impact levels; therefore, only the impacts of the recovery facility were evaluated for these pollutants. No background concentrations were assumed for the pollutants with impacts below the significant impact levels. Even though no monitoring was required for SO₂, the department has assumed a conservative background value of 20 ug/m³.

The highest, second highest short-term concentrations are given in the table since five years of meteorological data were used in the modeling.

5. Analysis of Impact on Soils, Vegetation, and Visibility and Growth-Related Air Quality Impacts.

The maximum ground level concentrations predicted to occur as a result of emissions from the proposed facility will be well below all applicable AAQS including secondary standards designed to protect public welfare related values. Therefore no adverse effects on soils, vegetation and visibility are expected.

No secondary residential, commercial or industrial growth which will adversely effect air quality in the area is expected.

VII. Conclusions

Based on an evaluation of the applications, the department believes that compliance with all applicable state and federal air regulations will be achieved provided certain general and specific conditions are met, as set forth in the attached draft permits (AC 03-84703 and AC 03-84704).

Table 1

Proposed Bay County Resource Recovery Facility Source Parameters And Emission Rates Used in Assessing Air Quality Impacts

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temp. (°K)	Emission Rates (g/s)				
					SO ₂	PM	NOx	CO	Pb
Units 1 & 2	38.10	1.22	17.30	478	5.57	1.44	6.17	29.08	.009

Table 2

Comparison of New Source Impacts with PSD Increments

Pollutant and Time Average	PSD Class II Increment	Predicted Concentration	PSD Class I Increment	Predicted Concentration
SO ₂ (ug/m ³)				
3-hour	512	22.1	25.0	2.9
24-hour	91	6.5	5.0	0.6
Annual	20	0.6	2.0	0.02
PM (ug/m ³)				
24-hour	37	1.7	10.0	0.2
Annual	19	0.2	5.0	0.1

Table 3

Comparison of Predicted Impacts of Bay County Resource Recovery Facility and Other Sources with Ambient Air Quality Standards

Pollutant	Averaging Time	Max. Predicted Concentration (ug/m ³)	Florida AAQS (ug/m ³)	NAAQS (ug/m ³)
SO ₂	Annual	27 ^b	60	80
	24-hour ^a	122 ^b	260	365
	3-hour ^a	404 ^b	1300	1300
TSP ^c	Annual	0.2	60	75
	24-hour ^a	1.7	150	260
NO ₂ ^c	Annual	0.7 ^d	100	100
CO ^c	8-hour ^a	74	10,000	10,000
	1-hour ^a	147	40,000	40,000
Pb ^c	3-month	0.1 ^e	1.5	1.5

a Highest, second highest value

b Includes conservative background of 20 ug/m³

c Bay County Resource Recovery Facility only

d Assumes 100% conversion of NO_x to NO₂

e Maximum 24-hour average

Westinghouse
Electric Corporation

Advanced Power Systems
Divisions

Waste Technology Services Division

Box 286
Madison Pennsylvania 15663-0286
(412) 722 5000

May 25, 1984

DER

MAY 29 1984

Mr. Clair Fancy
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

BAQM

Re: Westinghouse Air Construction Permit Application
for Bay County Resource Recovery Facility
AC 03-84703 and AC 03-84704

Dear Mr. Fancy:

Enclosed please find the following documents submitted by the Waste Technology Services Division of Westinghouse Electric Corporation in regard to the above-referenced air permit applications.

1. Responses to each item of your letter to Mr. F. S. Pollier dated April 16, 1984, in which the Department requested additional information regarding the air permit application for the proposed facility submitted by Westinghouse on March 22, 1984. (See Attachments I and II hereto.)
2. The original and four copies of a revised air construction permit application for the proposed facility, with Attachments "A" through "I".

Please note that the revised permit application includes one change in the facility design. Economic studies have determined that this project cannot be financed at the original design capacity of 350 tons per day of MSW because of the need for a larger revenue stream. This can best be accomplished by increasing plant capacity to the equivalent of 510 tons per day of MSW and supplementing the available MSW with increased quantities of wood waste. This allows higher steam production and increased electrical generation, which is our primary revenue base outside the Bay County tipping fee. We are obligated to minimize this tipping fee for the benefit of Bay County and its citizens.

Mr. Clair Fancy
May 25, 1984
Page 2

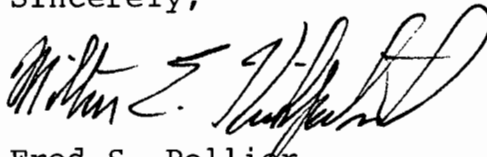
In an effort to avoid delay in the permitting process, the air permit application and attachments have been substantially revised to provide the information necessary for PSD review of the proposed facility, and to supply all information requested in your letter of April 16, 1984. Westinghouse believes this approach is in the best interests of the Bay County project, provided that the Department can review and process the revised application on an expedited schedule, as you indicated would be the case at your meeting with Peter Cunningham on April 16, 1984. The only information that remains outstanding is Attachment "J" to the revised permit application (the Air Quality Dispersion Modeling Report), which is being finalized by Southern Company Services and will be submitted in the very near future.

Any questions regarding this permit application should be addressed to:

Fred S. Pollier/J.D. Phillips
Westinghouse Electric Corporation
Waste Technology Services Division
Post Office Box 286
Madison, PA 15663-0286

Please note our change in location since the original application.

Sincerely,



FOR

Fred S. Pollier
Project Manager
Bay County Project

Enclosures

cc: Nancy Wright, Esquire (w/o enclosure)
Bob King (w/ enclosure, except Attachment "J")
Cleve Holladay (w/ Attachment "J" only)
Steve Fox (w/o enclosure)
Larry Lukin (w/o enclosure)
Robert V. Kriegel (w/o enclosure)

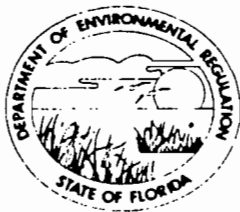
Mr. Clair Fancy
May 25, 1984
Page 3

bcc: J.W. Bohlig
L.P. Duffy
J.W. Fisch
G.B. Levin
R.L. Grandy
J.D. Phillips
V. Campbell
C.J. Bailey, EPR
G. Layman, Gulf
L. Burke, Bay Co.
W. May, Sanders & Thomas
W.H. Green
J.T. McClain
M.E. Kirkpatrick (2)

ATTACHMENT I

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

April 16, 1984

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

F. S. Pollier/J. D. Phillips
Westinghouse Electric Corporation
Waste Technology Services Division
P. O. Box 10864
Pittsburgh, Pennsylvania 15236

Re: Bay County Resource Recovery Facility,
Air Construction Permits: AC 03-84703, and AC 03-84704

Dear Mr. Pollier:

The Bureau of Air Quality Management received your applications on March 26, 1984, for construction permits of two MSW-fired incinerators in Panama City, Florida. After reviewing these applications, the bureau has determined both applications to be incomplete. Before the applications can be further processed, the bureau has comments and requires additional information for each application as following:

1. According to EPA's document, if the resource recovery facility has a charging rate greater than 50 tons per day and burns solid waste, it would be subject to the incinerator NSPS. Therefore, your proposed new sources (350 tons/day) are subject to Subpart E, NSPS. Section IV of the application is applicable.
2. The proposed facility is a major facility based on the Table 500-1, Major Facility Categories, in Chapter 17-2. Therefore, the state PSD requirement applies to this facility according to FAC Rule 17-2.500(2)(d)2. Submit the necessary information and data for BACT analysis review. Also submit an air quality impact analysis to include an analysis of existing air quality, a PSD increment analysis, a National Ambient Air Quality Standards (NAAQS) analysis and an analysis of impact on soils, vegetation and visibility and growth related air quality impacts.

F. S. Pollier/J. D. Phillips
Page Two
April 16, 1984

3. Provide all information on the turbine generators including, but not limited to, rating, manufacturer, and efficiency.
4. Will the Bay County Board of County Commissioners or the selected vendor operate this resource recovery facility?
5. Submit a vendor's guarantee that the two proposed ESPs will be capable of controlling particulate emissions to 0.02 gr/dscf corrected to 12% CO₂ when firing MSW, wood chips or both.
6. When burning wood chips in the incinerators, what is the expected resistivity (ohm/centimeter) of the fly ash?
7. What percent (by weight) of the fly ash will be less than 10 microns when burning wood chips? What percent of the fly ash will be less than 5 microns?
8. When burning wood chips, there is the possibility of a fire hazard in the ESP. What precautions will be taken to avoid such a possibility?
9. The air emission tests at Gallatin, TN indicate that NRT fuel behaves differently in the O'Connor Rotary Combustor than raw waste. Will there be any difference when burning wood chips?
10. Will each rotary combustor have the capability to be operated under automatic combustion control (ACC)?
11. Attachment 11.A. in your application refers to the baghouse failure at Gallatin, TN. The control device at Gallatin was a Apitron electrostatically-assisted fabric filter. Submit your data that indicated the baghouse was at fault, not the ESP.
12. Cooper Engineers tested two 165 TPD units (in Japan) with an air pollution control system consisting of a TESI dry scrubber, dry venturi and baghouse. The

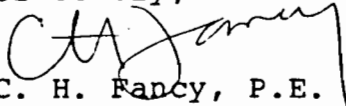
F. S. Pollier/J. D. Phillips
Page Three
April 16, 1984 .

preliminary test results indicate: 99% plus reduction in particulate, HCl gases, and SO₂ emissions; 70% plus reduction in HF gases; 30% reduction in mercury. Submit economic, energy, and environmental impact analysis for the comparison between this system and the control system you proposed on the application.

13. Will your proposed sources burn any sludge from any wastewater treatment plant?
14. Submit fuel sample analysis reports on the proposed fuels: MSW and wood chips. The SO₂ and Pb emissions listed in your application seem much lower than average.
15. Submit revised applications to replace the current applications, the revised ones should include all corrections and additional information required by items 1 thru 14 on this letter.

When the revised applications are received, we will resume processing your applications. If you have any questions on the information we request, please write me at the above address or call Bob King, Review Engineer, at (904)488-1344. Cleve Holladay should be called on any question related to modeling.

Sincerely,


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

CHF/BK/s
cc: Jack Preece
Peter Cunningham
Alan Richter
Cleve Holladay

ATTACHMENT II

Westinghouse Responses to DER Questions on
Air Permit Application for
Bay County Resource Recovery Facility

Response to Item 1.

As explained in Peter Cunningham's letter of April 16, 1984 to Steve Smallwood, Westinghouse believes the proposed combustor/boilers are "Carbonaceous Fuel Burning Equipment" under the Department's rules, and not "incinerators" or "Municipal Incinerators". In an effort to expedite the permitting process for this facility, however, Section IV of the attached revised air permit application has been filled out, and other information requirements for an "incinerator" have been provided.

Response to Item 2.

The attached revised air permit application and attachments include the necessary information regarding BACT review (Attachment "G"), air quality impact analysis (Attachments "H") and additional impact analyses. (Attachment "I".) No pre-construction monitoring is required for the proposed facility because its predicted ambient air quality impacts fall below the de minimus impact levels specified in F.A.C. §17-2.500, Table 500-3. See F.A.C. §17-2.500(3)(e).

Response to Item 3.

Turbine generators will be purchased from one of the following manufacturers: Westinghouse, Mitsubishi, Turbodyne, Terry. Other information on the turbine generators is listed below.

Rating:	10 megawatts
Efficiency:	78%
Steam Inlet Conditions:	600 PSIG 750°F
	Approx. 114,000 lb/hr.
Steam Exhaust Conditions:	3" Hga

Response to Item 4.

Operation of the proposed facility will be by Gulf Power Company, via Southern Company's unregulated subsidiary, Southern Electric International.

Response to Item 5.

Performance guarantees from the selected vendor will state that the ESP outlet particulate concentration will be no greater than 0.02 grams per standard cubic foot dry absolute, corrected to 12% CO₂. These guarantees will apply for firing of both municipal solid waste and supplementary fuel consisting of wood waste and bark.

Response to Item 6.

Fly ash resistivity resulting from burning of wood waste and bark is normally in the range of 10^5 to 10^7 ohms per centimeter. Resistivity of municipal solid waste incinerator fly ash is normally in the range of 10^9 ohms per centimeter. The difference in fly ash resistivity for these two fuels should not result in any significant difference in ESP performance. Moreover, wood waste will be utilized only as a supplemental fuel, with municipal solid waste as the primary fuel providing the vast majority of annual heat input. The minimum daily MSW tonnage weighed to date in Bay County is 250 tons per day. The design and equipment for the proposed facility provides for supplementing the 250 ton per day of MSW (minimum) with up to 220 tons per day of waste wood to keep the plant at full capacity and maximize revenues to the benefit of Bay County. Burning of 100% wood waste in the proposed facility is not intended or anticipated.

Response to Item 7.

Fly ash from burning of wood waste can be expected to produce particle size ranges in the following percentages:

<u>Particle Size (microns)</u>	<u>Percentage</u>
Less than 1	5
Less than 5	30-67
Less than 10	50-98
Less than 20	99

Source: American Air Filter Corp.

Response to Item 8.

The best method for preventing ESP fires is adherence to good operation and maintenance practice, along with control of the boiler to eliminate fuel-rich conditions in the furnace. In addition, the ESP will be fitted with a steam smothering nozzle to minimize fire hazard.

Response to Item 9.

There is no reason to believe that combustion characteristics of wood waste and bark will adversely affect the performance of either the combustor/boilers or the ESP's proposed for control of particulate emissions. The revised permit application utilizes emission factors for wood waste and bark from EPA's AP-42 publication in regard to emission levels for pollutants other than particulate matter. Note that the O'Connor rotary combustor was originally patented as a wood-burning unit.

Response to Item 10.

An automatic combustion control system will be provided for each of the two rotary combustors.

Response to Item 11.

The Apitron unit originally installed at the Gallatin facility cannot be considered an electrostatic precipitator followed by a baghouse. While there was a small (so-called) electrostatic section in the lower part of the unit, the failures were caused by burning bags ignited by burning particles in the gas stream (sparklers), along with a very poor air to cloth ratio that allowed bag blinding to inhibit boiler draft. In addition, flue gas entered the bags from the inside rather than the outside, thus adding to the propensity for unit failure. It is, therefore, clear that the baghouse was "at fault." Suffice it to say that Apitron has withdrawn from this market and this technology is not a viable option for the proposed facility.

Response to Item 12.

The air pollution control devices utilized at the referenced Japanese facility are addressed in the BACT analysis provided with the revised air permit application. (See Attachment "G".) It should be emphasized that the Japanese system provides no better particulate emission control than is expected from the proposed ESPs. Control of other pollutants (SO₂, HCL gases, HF gases, mercury) does not justify utilization of the Japanese system at the proposed facility because of the minimal levels of emissions of such pollutants that will be emitted from the proposed facility, and the insignificant environmental impact of those emissions. As shown in the BACT analysis, higher capital, operation and maintenance costs of the Japanese system make it non-cost-effective as compared to the proposed ESPs.

Response to Item 13.

No wastewater treatment plant sludge will be burned at the proposed facility.

Response to Item 14.

Fuel analyses for MSW and wood waste are provided in Attachment "C" to the revised air permit application. The abated lead emission levels shown in the application are calculated on the basis of data from the Gallatin facility showing lead as a percentage of particulate matter, multiplied by the weight of particulate emissions. (See Attachment "D" to the revised air permit application.) Note that lead emission factors in Table 5-24 in Cooper Engineers' report on the Gallatin facility are

unabated -- i.e., from samples taken prior to the particulate control device. After discussion with BAQM staff, the SO₂ emission factor utilized in the revised permit application has been changed to 2.8 pounds per ton of MSW, based on the data from the Gallatin facility.

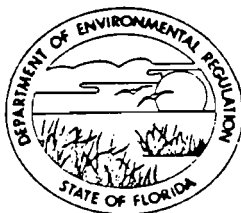
Response to Item 15.

An original and four copies of a revised air permit application are enclosed, along with Attachments "A" through "I" thereto. Attachment "J" to the application (the Air Quality Dispersion Modeling Report) is being finalized and will be submitted in the very near future.

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ROBERT V. KRIEGEL
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Resource Recovery Facility
Comprising 2 Combustor/Boilers New¹ Existing¹

APPLICATION TYPE: Construction Operation Modification

COMPANY NAME: Bay County Energy Resources, "A Joint Venture"
5433 Westheimer, Suite 1106, Houston, Texas 77056 COUNTY: Bay
c/o Environmental Protection Resources, Inc.

Identify the specific emission point source(s) addressed in this application (i.e. Lime
2 MSW-fired combustor/
Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) boilers with electrostatic
precipitators and separate
stacks

SOURCE LOCATION: Street U.S. Highway 231 City Panama City

UTM: East _____ North _____
Latitude 30 ° 15 ' _____ "N Longitude 85 ° 30 ' _____ "W

APPLICANT NAME AND TITLE: Bay County Energy Resources, "A Joint Venture" - C.J. Bailey,
President

APPLICANT ADDRESS: c/o Westinghouse Waste Technology Services Division, Bay County
Waste-To-Energy Project, P.O.Box 286, Madison, PA 15663

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER
Attention:
F.S. Pollier,
Project Manager

A. APPLICANT

I am the undersigned owner or authorized representative* of Bay County Energy Resources
"A Joint Venture"

I certify that the statements made in this application for an Air Pollution Source
permit are true, correct and complete to the best of my knowledge and belief. Further,
I agree to maintain and operate the pollution control source and pollution control
facilities in such a manner as to comply with the provision of Chapter 403, Florida
Statutes, and all the rules and regulations of the department and revisions thereof. I
also understand that a permit, if granted by the department, will be non-transferable
and I will promptly notify the department upon sale or legal transfer of the permitted
establishment.

*Attach letter of authorization

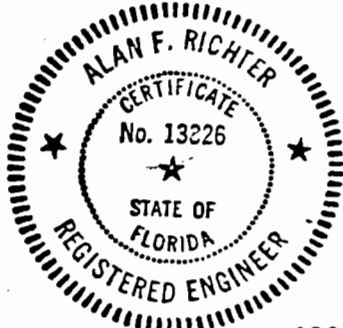
Signed: [Signature]
C.J. Bailey, Jr., President, Environmental
Name and Title (Please Type) Protection
Resources, Inc
Date: _____ Telephone No. (713)626-5691

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have
been designed/examined by me and found to be in conformity with modern engineering
principles applicable to the treatment and disposal of pollutants characterized in the
permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed Alan F. Richter

Alan F. Richter, P.E., President
Name (Please Type)

STV ENGINEERS, INC.
Company Name (Please Type)

11 Robinson St., Pottstown, PA 19464
Mailing Address (Please Type)

Florida Registration No. 13826 Date: 4/25/84 Telephone No. 215-326-4600
*Also see Attachment "A" for certification of Milton E. Kirkpatrick, P.E.

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment "B"

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction 4th Quarter 1984 Completion of Construction 4th Quarter 1986

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Preliminary engineering estimates for two (2) electrostatic precipitators are \$1,100,000. This figure includes the cost of precipitators, transformer-rectifier units, heated-insulated ash hoppers, and controls.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

None

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
 if power plant, hrs/yr 8760; if seasonal, describe: This facility is expected to be in
continuous operation except for maintenance outages. Full capacity of 350 tons per
day of municipal solid waste will not normally be realized except in the summer vacation
season. Wood-waste and bark will be burned as supplemental fuel.

F. If this is a new source or major modification, answer the following questions.
 (Yes or No)

- 1. Is this source in a non-attainment area for a particular pollutant? No
 - a. If yes, has "offset" been applied? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
- 2. Does best available control technology (BACT) apply to this source? Yes
 If yes, see Section VI.
- 3. Does the State "Prevention of Significant Deterioration" (PSD)
 requirement apply to this source? If yes, see Sections VI and VII. Yes
- 4. Do "Standards of Performance for New Stationary Sources" (NSPS)
 apply to this source? Yes *
- 5. Do "National Emission Standards for Hazardous Air Pollutants"
 (NESHAP) apply to this source? No

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
 to this source? No
 - a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
 any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
 cation for any answer of "No" that might be considered questionable.

* This revised application has been completed as if the proposed facility
 constitutes an Incinerator subject to NSPS requirements under 40 CFR
 Part 60, Subpart E.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: N/A

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

- Total Process Input Rate (lbs/hr): 29166.6 lbs/hr MSW plus 11,233.3 lbs/hr. Wood
= 40,400 lbs/hr. total
- Product Weight (lbs/hr): 114,400 lbs/hr steam

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)
 For each of the two combustor/boiler stacks: (See Attachment "D")

Name of Contaminant	Emission ¹		Allowed ² Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	5.72	25.05	0.08 grains per scf dry	15.3	429	1879	
CO	115.4	505	gas corr. to 50% excess air*		115.4	505	
SO ₂	22.1	96.4			22.1	96.4	
NO _x	24.4	107			24.5	107	
HC	9.0	39			9.0	39	

Lead .0358 315 #/Yr
¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* per 17-2.600(1)(c)1. Also see 40 CFR §60.52 (NSPS for incinerators as incorporated by reference in 17-2.660) which establishes a standard for particulate matter of 0.08 grains per dscf, corrected to 12% CO₂.

BEST AVAILABLE COPY

Control Dev
Name
(Mod)

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: N/A

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

- Total Process Input Rate (lbs/hr): 29166.6 lbs/hr MSW plus 11,233.3 lbs/hr. Wood
= 40,400 lbs/hr. total
- Product Weight (lbs/hr): 114,400 lbs/hr steam

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

For each of the two combustor/boiler stacks: (See Attachment "D")

Name of Contaminant	Emission ¹		Allowed ² Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	5.73	25.05	0.08 grains per scf dry	15.3 5.73	429	1879	
CO	115.4	505	gas corr. to 50% excess		115.4	505	
SO ₂	22.1	96.4	air* BACT		22.1	96.4	
NO _x	24.4	107			24.5	107	
HC	9.0	39			9.0	39	

Lead .0358 315 #/Yr
¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* per 17-2.600(1)(c)1. Also see 40 CFR §60.52 (NSPS for incinerators as incorporated by reference in 17-2.660) which establishes a standard for particulate matter of 0.08 grains per dscf, corrected to 12% CO₂.

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Electrostatic Precipitator	Particulate/ Lead	Approx. 99%	1.0 Micron to 20 Micron	Cooper & Clark Table 5-11

E. Fuels For each of the two units:

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Municipal Solid Waste	12,500	14583.3	65.6
Wood Waste and Bark	7408	9,201	48.16
Natural Gas	Will be used for startup & shutdown	30 MCF/hr	30

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis: For standard MSW (See Attachment "C" for wood waste analysis)

Percent Sulfur: 0.16 Percent Ash: 27.58 (typical)

Density: N/A lbs/gal Typical Percent Nitrogen: 0

Heat Capacity: 4500 BTU/lb N/A BTU/gal

Other Fuel Contaminants (which may cause air pollution): Primary fuel will be type III municipal solid waste. Small quantities of lead will be present. No hazardous waste will be accepted for burning.

F. If applicable, indicate the percent of fuel used for space heating. N/A

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Bottom ash and fly ash to be co-mingled and transported to Bay County Landfill. All liquid wastes (cooling tower blowdown, boiler blowdown, ash quench water overflow, excess cooling water, sanitary waste, plant washdown water) will be pretreated and discharged through sanitary sewers to Bay County Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 2 stacks, each 125 ft. Stack Diameter: 4 ft.
 Gas Flow Rate: 42744 ACFM 22280 DSCFM Gas Exit Temperature: 400 °F.
 Water Vapor Content: 20 % Velocity: 3403 FPM ~~883~~

SECTION IV: INCINERATOR INFORMATION

Combined total for both units:

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated	875	-----4375-----		23917	--	--	--
Uncontrolled (lbs/hr)		-----510 lbs/hr. max.-----					

Description of Waste Municipal Solid Waste, supplemented by waste wood and bark
 Total Weight Incinerated (lbs/hr) 29166.6 MSW Design Capacity (lbs/hr) 40,400 MSW + wood
 Approximate Number of Hours of Operation per day 24 day/wk 7 wks/yr. 52
 Manufacturer O'Connor Combustor Corp.
 Date Constructed 1984-5 Model No. RC-120(2)

N/A	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: 2 stacks, each 125 ft. Stack Diameter: 4 ft. Stack Temp. 400°F
 Gas Flow Rate: 42744 ACFM 22280 DSCFM* Velocity: 3403 FPM ~~883~~

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) Electrostatic Precipitator

Brief description of operating characteristics of control devices: ESP with approx. 99%
particulate removal efficiency and design emission rate of 0.02 grains per dscf corr. to
12% CO₂. (Also see BACT Analysis provided as Attachment "G".)

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

Bottom ash and fly ash to be co-mingled and transported to Bay County Landfill. All

liquid wastes (cooling tower blowdown, boiler blowdown, ash quench water overflow,
excess cooling water, sanitary waste, plant washdown water) will be pretreated and

discharged through sanitary sewers to Bay County Sewage Treatment Plant.

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
See Attachment "C".
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. See Attachment "D".
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
See Attachment "D".
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
See Attachment "D".
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
See Attachment "E".
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
See Attachment "F".
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
See Attachment "F".

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
 Check for \$2,000.00 previously submitted.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes [] No

Contaminant	Rate or Concentration
Particulate Matter	0.08 grains per dscf, corrected to 12%
	40 CFR §60.52

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[] Yes No (According to information provided by Bob King of BAQM.)

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?
 For each of the two stacks:

Contaminant	Rate or Concentration
Particulate Matter	0.03 grains per scf, corrected to 12%
CO	115.4 lbs/hr. (daily average) ^{CO₂ (5.72 lb/hr.)}
NO _x	24.5 lbs/hr. (daily average)
SO ₂	22.1 lbs/hr. (daily average)

D. Describe the existing control and treatment technology (if any). N/A

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft.
- b. Diameter: ft.
- c. Flow Rate: ACFM
- d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

See BACT analysis provided as Attachment "G"

1.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

- F. Describe the control technology selected: (Also see BACT Analysis provided as Attachment "G")
- 1. Control Device: Electrostatic Precipitator
 - 2. Efficiency:¹ 99% - [See efficiency calculation in Attachment "D"]
 - 3. Capital Cost: \$1,100,000.00
 - 4. Useful Life: 20 years
 - 5. Operating Cost: 30,000/yr.
 - 6. Energy:² 60 KW
 - 7. Maintenance Cost: 30,000/yr
 - 8. Manufacturer: To be selected
 - 9. Other locations where employed on similar processes:
 - a. (1) Company: Nashville Thermal Transfer Corp.
 - (2) Mailing Address: 110 First Avenue South
 - (3) City: Nashville
 - (4) State: Tennessee 37201

¹Explain method of determining efficiency.
²Energy to be reported in units of electrical power - KWH design rate.

- (5) Environmental Manager: James T. Hestle, General Manager
 (6) Telephone No.: (615) 244-3150
 (7) Emissions:¹

Contaminant	Rate or Concentration
Particulate Matter	0.02 grains per scf, corr. to 12% CO ₂ (test data); permit limit = 0.08 gr/scf

- (8) Process Rate:¹ 400 TPD MSW
 b. (1) Company: Pinellas County, Dept. of Public Works
 (2) Mailing Address: 310 Court Street
 (3) City: Clearwater (4) State: Florida 33516
 (5) Environmental Manager: D.F. Acenbrack, Director Dept. of Public Works
 (6) Telephone No.: (813) 825-1565
 (7) Emissions:¹

Contaminant	Rate or Concentration
Particulate Matter	0.03 grains per scf, corr. to 12% CO ₂
Lead	1.3 lb/hr.
Visible Emissions	10%, with up to 20% opacity for up to 3 minutes per hour, plus provisions for startup and upset conditions per §17-2.250, F.A.C.
(8) Process Rate: ¹ Approx. 3000 TPD	

10. Reason for selection and description of systems:
 See BACT analysis provided as Attachment "B"

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data - No preconstruction monitoring required for this facility as predicted impacts are less than the de minimus levels specified in 17-2.500 Table 500-3 as per 17-2.500(3)(e) (See Attachment "J")

1. _____ no. sites _____ ISP _____ () _____ SO₂* _____ Wind spd/dir _____
 Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
 month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No

b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. 5 Year(s) of data from 1 / 1 / 65 to 12 / 31 / 69
month day year month day year

2. Surface data obtained from (location) Panama City - Nat. Weather Service Station

3. Upper air (mixing height) data obtained from (location) Eglin Air Force Base

4. Stability wind rose (STAR) data obtained from (location) N/A

C. Computer Models Used

1. SCSTER Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables. See Attachment "J"

D. Applicants Maximum Allowable Emission Data See Attachment "J"

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling See Attachment "J"

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.
See Attachment "H"

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.
See Attachment "G"


H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.
See Attachment "G"

LIST OF ATTACHMENTS TO REVISED AIR PERMIT
APPLICATION FOR BAY COUNTY RESOURCE RECOVERY FACILITY

- ATTACHMENT "A" - Certification of Milton E. Kirkpatrick, P.E.
- ATTACHMENT "B" - General Project Information
- ATTACHMENT "C" - Fuel Analyses for MSW and Wood Waste
- ATTACHMENT "D" - Basis of Emission Estimates
Basis of Potential Discharge Estimates
Derivation of Control Device Efficiency
Proposed Compliance Test Methods
- ATTACHMENT "E" - Flow Diagram
- ATTACHMENT "F" - Plot Plan, Site Plan
- ATTACHMENT "G" - BACT Analysis
- ATTACHMENT "H" - Additional Impacts Analysis
- ATTACHMENT "I" - List of References
- ATTACHMENT "J" - Air Quality Dispersion Modeling Report

Milton Elder Kirkpatrick Jr.
3713 West End Avenue · Nashville, Tennessee 37205

THIS IS TO CERTIFY THAT THE ENGINEERING FEATURES OF THIS POLLUTION CONTROL PROJECT HAVE BEEN DESIGNED/EXAMINED BY ME AND FOUND TO BE IN CONFORMITY WITH MODERN ENGINEERING PRINCIPLES APPLICABLE TO THE TREATMENT AND DISPOSAL OF POLLUTANTS CHARACTERIZED IN THE PERMIT APPLICATION. THERE IS REASONABLE ASSURANCE, IN MY PROFESSIONAL JUDGEMENT, THAT THE POLLUTION CONTROL FACILITIES, WHEN PROPERLY MAINTAINED AND OPERATED, WILL DISCHARGE AN EFFLUENT THAT COMPLIES WITH ALL APPLICABLE STATUTES OF THE STATE OF FLORIDA AND THE RULES AND REGULATIONS OF THE DEPARTMENT. IT IS ALSO AGREED THAT THE UNDERSIGNED WILL FURNISH, IF AUTHORIZED BY THE OWNER, THE APPLICANT A SET OF INSTRUCTIONS FOR THE PROPER MAINTENANCE AND OPERATION OF THE POLLUTION CONTROL FACILITIES AND, IF APPLICABLE, POLLUTION SOURCES.



MILTON E. KIRKPATRICK
WESTINGHOUSE ELECTRIC COMPANY

POST OFFICE BOX 286
MADISON, PA 15663-0286

TENNESSEE # 10268
LOUISIANA # 1431
ALABAMA # 1901
MARYLAND # 13040



GENERAL PROJECT INFORMATION

ATTACHMENT "B" - GENERAL PROJECT INFORMATION

This project involves the construction of a resource recovery facility that will generate steam-electric power by burning the combustible fraction of municipal solid waste generated within Bay County. The project is the major part of the Bay County Commission's response to solid waste management planning for the future. Please note that the plant capacity will be sufficient to accommodate Bay County's municipal solid waste for well into the 21st century.

The facility will consist of two (2) O'Connor RC 120 combustor units with provision for future addition of a third unit. Capacity of the facility will be 350 tons per day of municipal solid waste plus 135 tons per day of waste wood and bark which will be used as a supplemental fuel to maximize plant capacity factor and revenues. Steam produced in the two incinerator/boilers will be used to produce electrical energy by turbine generators, which will be sold to Gulf Power Company. Design of the facility will provide for future steam sales for manufacturing or other uses in the adjacent industrial park.

Electrostatic precipitators are proposed for control of particulate emissions from the incinerator/boilers. This choice is based upon successful operating experience with this control technology in resource recovery facilities utilizing waterwall boilers for the incineration of municipal solid waste in Nashville, Tennessee; Saugus, Massachusetts; Hampton, Virginia; and Pinellas County, Florida. The design criteria for particulate emissions from the precipitators will be 0.02 grains per standard cubic foot, corrected to 12% CO₂. This represents a particulate removal efficiency of approximately 99%.

The use of baghouse filter technology has been rejected for this project in view of the baghouse failure at Gallatin, Tennessee and the lack of experience with baghouses on existing municipal solid waste incinerator/boilers. The early failure involving the use of a wet scrubber at the Nashville facility, and the lack of successful operating experience on waterwall boilers equipped with dry scrubbers in the U.S.A., form the basis of the decision not to utilize scrubber technology for this project. The electrostatic precipitator is the only proven method in use on MSW fired waterwall boilers in the United States that meets or exceeds all air quality standards.

As proposed, this project will result in full compliance with all applicable requirements of Florida Administrative Code Chapter 17-2.

BASIC DATA
RESOURCE RECOVERY PLANT
BAY COUNTY, FLORIDA

Introduction

This document presents design criteria on the proposed Bay County project. Plant capacity will be 350 tons per day of municipal solid waste plus 135 tons per day of waste wood and bark. Data from scales at the Majette Tower Landfill indicate a maximum of 350 TPD, a minimum of 250 TPD, and an annual 109,500 tons of MSW. Wood waste and bark will be used as supplemental fuel to maximize plant capacity and revenues. The plant will be designed with two O'Connor RC 120 Combustor units. Energy produced by turbine generators will be sold to Gulf Power Company. Future steam sales will be provided for in plant design.

Site

The plant site will be in an Industrial Park approximately eight miles from the center of Panama City on U.S. Highway 231. Gulf Power has a 115 kV line adjacent to the site.

Architectural and Civil

The plant will be designed to present an aesthetically attractive grouping of buildings and equipment. MSW is to be weighed on automatic scales and tipped on a reinforced concrete slab in a 140' x 260' rigid frame building. Reclaiming of waste will be with a rubber tired front end loader to two (2) four feet (4') wide pan conveyors. Each conveyor is 90 feet long and transfers material to a second conveyor which terminates at the hopper of each combustor train. Floor storage in the center of the building, away from all walls, will accommodate over 1000 tons of MSW and still leave room for truck traffic. The building will be designed for access by 18 wheel semi-trailers now in service from the two transfer stations in Panama City. Provision for individuals in small vehicles is to be provided. Elevation is to be compatible with conveyor runs to the power train and power train elevation. Center line of the conveyors to the combustor hoppers is 35 feet. A building extension over the conveyors is to be provided, along with walkways by each conveyor. A gravity roof ventilator is to be provided. In addition, combustion air is to be ducted from the building extension to the forced draft fans.

No additional equipment is proposed for acceptance of wood chips. They will be stored as is MSW and mixed by the operator in the storage building.

All equipment foundations will be on piling. Designers will provide soil borings as required.

Pretreatment of quench water prior to discharge to sewer is required.

Electrical

Maximum energy efficiency in the plant is to be provided. Energy efficient electric motors are to be designed into the plant. Lighting is to be high pressure sodium vapor.

The four fan drive motors are to be AFAC (adjustable frequency/alternating current).

Interface with Gulf Power and Southern Services will be required. Possible subcontract to Southern Services for generator terminals to switchyard is pending.

Maximum usage of cable trays for all electrical and instrument lines is required. Minimum conduit.

Southern Services will design 115/12 kV substation on a one acre site between the plant and their 115 kV line. Their substation will be sized for future growth in the Industrial Park.

An office building will be designed for four day personnel, a conference room, and a change room for plant operating and maintenance personnel. Visual access from the office building to the scale is required. Parking is required. Roads will be provided. Property is to be fenced with chain link galvanized fencing.

A building to enclose the power train is to match the refuse storage building.

Sewer and water to the site are to be provided by others.

Process Train

The process train from the hopper on the combustor to the stack will be designed by Westinghouse. It is intended to have a left hand and a right hand boiler with soot blowers offset and in the center between the units. The stack will be four feet in diameter, self supporting, with a ladder to an E.P.A. test platform. Copper bearing steel is to be used to minimize corrosion. Stack height is to be a nominal 125 feet. No taper or high velocity nozzles are to be on the stacks.

Mechanical

Equipment design for plant is to include:

- Turbine Generators
- Condensers - with Appurtenances
- Cooling Tower
- Circulating Water Pumps
- Boiler Feed Pumps
- Deaerating Heater and Storage Tank
- Condenser Water Pumps
- Switchgear
- Ash Hopper - Boiler
- Ash Hopper - Siftings
- Ash Conveyors
- Instrument and Control System
- Air Compressor(s)
- Boiler Blowdown Flash Tank

Support Facilities for air emission equipment - It is intended to use an electrostatic precipitator for control of particulate emissions.

Boiler water treatment facilities are to be designed for 100% makeup.

All support facilities for the power plant are to be provided. Items such as P.A. systems, CCTV, sump pumps and any item not listed but required in the proper operation of the plant is to be a part of this scope.

FUEL ANALYSES

Wood Waste Analysis:

Sulfur	- 0 -
Ash	0.36%
Nitrogen	0.04%
Hydrogen	3.55
Carbon	27.90
Oxygen	18.15
Moisture	50% as rec'd.
Density	20-25 lb/cu.ft.
HHV	5230 Btu/lb.

Ref: Hayes Testing Laboratories, Pensacola, Florida

Standard Municipal Solid Waste Analysis:

		<u>Percent by Weight</u>
Carbon	-	25.53
Hydrogen	-	3.35
Oxygen	-	21.38
Sulfur	-	.16
Moisture	-	22.00
Inerts	-	<u>27.58</u>
Total		100.00
HHV	-	4500 Btu/lb

Ref: O'Connor Combustor Corp.

BASIS OF EMISSION ESTIMATES
BASIS OF POTENTIAL DISCHARGE ESTIMATES
DERIVATION OF CONTROL DEVICE EFFICIENCY
PROPOSED COMPLIANCE TEST METHODS

Total Process Rate - Application Page 4

Case I - Maximum MSW - 350 TPD
Minimum Wood Waste - 135 TPD

Case II - Minimum MSW - 250 TPD
Maximum Wood Waste - 220 TPD

Case III - Average - Annual
MSW - 300 TPD
Wood Waste - 178 TPD

Case I - O'Connor RC-120 Rotary Combustor Design
Input 95×10^6 Btu/hr. per unit
 190×10^6 Btu/hr. Total

Less Maximum MSW at 4500 Btu/lb
 131.25×10^6 Btu/hr

Equals Wood Waste and Bark
by difference 58.75×10^6 Btu/hr

$$\frac{58.75 \times 10^6 \text{ Btu}}{5230 \text{ Btu/lb}} = 11,233 \text{ lb/hr}$$

or 5.6 tons/hr.

Case II - Design Input 190×10^6 Btu/hr.

Less minimum MSW at 4500 Btu/lb.
 93.75×10^6 Btu/hr

Equals Wood Waste and Bark
by difference 96.25×10^6 Btu/hr

$$\frac{96.25 \times 10^6 \text{ Btu}}{5230 \text{ Btu/lb}} = 18,403 \text{ lb/hr}$$

or 9.2 tons/hr.

Plant Capacity - Application Page 6

2 - RC 120 O'Connor Rotary Combustors

510 Tons per day - MSW @ 4500 Btu/lb
equivalent - 190×10^6 Btu/hr

Bay County MSW Stream

Based on 13 months of weight data - 300 TPD Average
- 350 TPD Maximum
- 250 TPD Minimum

Case I	-	Maximum MSW	29,166.6 lb/hr
		Minimum Wood	<u>11,233</u> lb/hr
		Total	40,399.6 lb/hr

Case III - Annual Average - MSW and Wood

MSW - 300 TPD x 365 = 109,500 tons/yr

$109,500 \times 9 \times 10^6$ Btu/ton = $985,500 \times 10^6$ Btu/yr

Design Capacity -

$190 \times 10^6 \times 8760 = 1,664,400 \times 10^6$ Btu/yr

Design Capacity	1,664,400	$\times 10^6$	Btu/yr
Less MSW	<u>985,500</u>	$\times 10^6$	Btu/yr
Wood Waste	678,900	$\times 10^6$	Btu/yr

$\frac{678,900 \times 10^6}{5230} = 129.8 \times 10^6$ lb/yr
64,904 tons/yr

Maximum Wood Capability based on 109,500 ton/yr
MSW stream

Plant Capacity - Application Page 5

Fuels (for each of 2 units)

Case I Maximum MSW

$$\text{MSW } \frac{29,166.2}{2} = 14,583.3 \text{ lb/hr}$$

$$\text{Wood } \frac{11,233}{2} = \underline{5,616} \text{ lb/hr}$$

$$\text{Total } 20,199.3 \text{ lb/hr}$$

Case II Minimum MSW

$$\text{MSW } \frac{250 \times 2000}{24 \times 2} = 10,416 \text{ lb/hr}$$

$$\text{Wood } \frac{18,403}{2} = \underline{9,201.5} \text{ lb/hr}$$

$$\text{Total } 19,616.5 \text{ lb/hr}$$

Case III Annual Averages

$$\begin{array}{l} \text{MSW } 300 \text{ TPD} \\ \text{Wood } 64,904 \text{ tons/yr} \div 365 = 177.8 \text{ tons/day} \end{array}$$

$$\text{MSW } \frac{300 \times 2000}{24 \times 2} = 12,500 \text{ lbs/hr}$$

$$\text{Wood } \frac{177.8 \times 2000}{24 \times 2} = \underline{7,408} \text{ lbs/hr}$$

$$\text{Total } 19,908 \text{ lbs/hr}$$

$$\begin{array}{l} \text{Maximum Btu} - \text{MSW} - 131.25 \times 10^6 \text{ Btu/hr} \\ \quad \quad \quad \quad \quad \quad \quad \quad 65.6 \times 10^6 \text{ Btu/hr/stack} \\ \quad \quad \quad \text{Wood Waste } 96.25 \times 10^6 \text{ Btu/hr} \\ \quad \quad \quad \quad \quad \quad \quad \quad 48.125 \times 10^6 \text{ Btu/hr/stack} \end{array}$$

Particulate Emissions

Unabated

Emission Factors:

MSW 42.5 lb/ton

Ref: Hahn, Table 3

Wood Waste & Bark 42.5 lb/ton

Ref: EPA (1982)

Worst Case 350 TPD MSW
 135 TPD Wood Waste

<u>Emissions</u>	<u>lb/hr</u>
lb/hr/stack	429
<u>lb/hr - Total</u>	<u>858</u>
tons/yr/stack	1879
tons/yr. - Total	3758

Bay County, Florida
Resource Recovery Plant

Particulate Emissions

Controlled

Control to 0.03 Grains per DSCF Corr.

$$\frac{0.03 \text{ Grains}}{\text{S.C.F.}} \times \frac{22,280 \text{ S.C.F.}}{\text{Min.}} \times \frac{60 \text{ min.}}{\text{Hr.}}$$

=

$$\frac{7,000 \text{ Grains}}{\text{lb.}}$$

5.72 lb/hr per stack

11.45 lb/hr Total

Bay County, Florida
Resource Recovery Plant

ESP Efficiency

Unabated PM Emissions = 429 lb/hr/stack
Controlled PM Emissions = 5.72 lb/hr/stack

$$5.72 \div 429 = 0.0133$$

$$1 - 0.0133 = 0.9867$$

$$\text{ESP Efficiency} = 98.7\%$$

Bay County, Florida
Resource Recovery Plant

Allowable Emission Rate

Per Rule 17-2

0.08 Grains per SCF Dry Gas

Corr. to 50% excess air

$$\frac{.08 \text{ Grains}}{\text{SCF}} \quad \times \quad \frac{22,280 \text{ S.C.F.}}{\text{Min.}} \quad \times \quad \frac{60 \text{ min.}}{\text{Hr.}}$$

$$7000 \quad \frac{\text{Grains}}{\text{lb}}$$

15.2 lb/hr/stack

30.4 lb/hr - Total

Unabated Lead Emissions
(Prior to Emission Controls)

Emission Factor:

.274 lb/ton MSW

Ref: Table 5-24
Cooper Engineers
Gallatin, Tenn.
1983

$$\frac{.274}{24} \times \frac{350}{2} = 2 \text{ lb/hr/stack}$$

4 lb/hr Total

$$\frac{2 \times 8760}{2000} = 8.76 \text{ tons/yr/stack}$$

17.52 tons/yr total

Assume no lead in waste wood

Lead Emissions

Controlled

Emission Factor:

MSW 0.626% of Weight of Particulate

Reference: Hahn - Gallatin

Wood Assume no lead

Emissions:

$$\frac{5.72 \text{ lb/hr Particulate} \times 0.626}{100} = .0358 \text{ lb/hr/stack}$$

$$.0358 \times 8760 = 315 \text{ lb/yr/stack}$$

630 lb/yr total

Bay County, Florida
Resource Recovery Plant

NOx EMISSIONS

Emission Factors:

MSW 2.2 lb/ton
Reference: Hahn

Wood 2.8 lb/ton
Reference: EPA (1982)

Worst Case:

250 TPD MSW
220 TPD Waste Wood

Emissions

lb/hr/total	23.0	MSW
	26.0	wood
	<hr/>	
	49.0	Total
lb/hr/stack	24.5	

tons/yr/stack 107

tons/yr/ total 214

Bay County, Florida
Resource Recovery Plant

CO Emissions

Emission Factor

4.5 lb/ton MSW
Reference: Hahn

20 lb/ton waste wood
Reference: EPA (1982)

Worst Case: 250 TPD MSW
220 TPD Waste Wood

Emissions:

	<u>MSW</u>	<u>Wood</u>	<u>Total</u>
lb/hr/stack	23.4	92	115.4
lb/hr - total	46.8	184	230.8
<hr/>			
tons/yr/stack	102	403	505
tons/yr - total	204	806	1010

Bay County, Florida
Resource Recovery Plant

SO2 EMISSIONS

Emission Factor

2.8 lb/ton MSW
Reference: Hahn

0.30 lb/ton Waste Wood
Reference: EPA (1982)

Worst Case:

350 TPD MSW
135 TPD Wood Waste

485 TPD Total

Emissions	<u>MSW</u>	<u>Wood</u>	<u>Total</u>
lb/hr/stack	20.4	1.7	22.1
lb/hr - total	40.8	3.4	44.2
<hr/>			
tons/yr/stack	89	7.4	96.4
tons/yr - total	179	14.8	193.8

Non-Methane Hydrocarbons

Emission Factors

.232 lb/ton MSW
Reference: Hahn

1.7 lb/ton Wood Waste
Reference: EPA (1982)

Worst Case Emissions

250 TPD MSW
220 TPD Waste Wood

$$\frac{.232 \times 250}{2 \times 24} = 1.2 \text{ lb/hr MSW}$$

$$\frac{1.7 \times 220}{2 \times 24} = 7.8 \text{ lb/hr Waste Wood}$$

9.0 lb/hr/stack Total
18.0 lb/hr (both stacks)

$$\frac{9 \times 8760}{2000} = 39 \text{ tons/yr/stack}$$

78 tons/yr - total

Bay County, Florida
Resource Recovery Plant

Mercury

Emission Factor

0.00171 lb/ton MSW
Reference: Hahn

Assume Wood - no contribution

Worst Case

350 TPD MSW

Emissions

$$\frac{350 \times 0.00171}{24} = .025 \text{ lb/hr - total}$$

.0125 lb/hr/stack

$$8760 \times .025 = 218 \text{ lb/yr - total}$$

109 lb/yr/stack

Bay County, Florida
Resource Recovery Plant

Beryllium

Emission Factor

<0.000048 lb/ton MSW
Reference: Hahn
No significance

TABLE 3
 AVERAGE UNABATED AIR EMISSIONS DATA
 FROM THE GALLATIN ROTARY COMBUSTOR
 "REGULATED AIR POLLUTANTS"

Pollutant	Average Concentration	"Worst Case" Rolling Average Concentration (Time Period)	Average lb/hr	Average* lb/ton	Average** lb/10 ⁶ Btu
Particulate: U.S. EPA and BAAQMD (without condensibles)	2.92 gr/SDCF at 12% CO ₂	---	170.0	42.5	5.35
SCAQMD and Other California (with condensibles)	2.92 gr/SDCF at 12% CO ₂	---	170.0	42.5	5.35
NO _x	147 ppm _v at 7% O ₂	241 ppm _v at 7% O ₂ (1 hr)	9.11	2.2	0.303
SO ₂ : U.S. EPA Method 8	154 ppm _v at 7% O ₂	---	9.49	2.38	0.300
SO ₂ : Continuous Emission Monitoring	180 ppm _v at 7% O ₂	651 ppm _v *** at 7% O ₂ (1 hr) 454 ppm _v *** at 7% O ₂ (3 hr)	11.41	2.8	0.424
NMHC	40.2 ppm _{wv} at 10% O ₂ (wet)	124 ppm _{wv} at 10% O ₂ (wet) (3 hr)	1.09	0.232	0.0369
CO	586 ppm _v at 7% O ₂	2055 ppm _v at 7% O ₂ (1 hr)	17.88	4.5	0.631
Hg	---	---	0.0067	0.00171	0.000216
Pb	---	---	1.024	0.274	0.0353
Be	---	---	<0.00018	<0.000048	<0.000062

* Process feed weight approximately 92 TPD.
 ** Based on as-received MSW less the heating value of the residue.
 *** Given high values because of high sulfur fuel.

TABLE 5-35
NO, NO₂, AND NO_x EMISSION RATES

NO Calculation Method:			
CONCENTRATION:	Average NO _x (Table 5-33) @ 12% O ₂		105.6 ppm _v
	Correction (Table 5-32)		- 6.0 ppm _v
	Average NO _x @ 12% O ₂		99.6 ppm _v
	Average NO ₂ @ 12% O ₂ (Table 5-36)		- 3.6 ppm _v
	Average NO @ 12% O ₂		96.0 ppm _v
NO _x Average @ 12% O ₂	-	99.6 ppm _v	
NO _x Range @ 12% O ₂	-	82.0 to 135.0 ppm _v	
NO _x "Worst Case" Rolling Average @ 12% O ₂ (time period)	-	111.5 ppm _v (1 hr.)	
NO Average @ 12% O ₂	-	96.0 ppm _v	
NO ₂ Average @ 12% O ₂	-	3.6 ppm _v	
NO _x Average @ 3% O ₂	-	200.3 ppm _v	
NO _x Range @ 3% O ₂	-	178 to 274 ppm _v	
NO Average @ 3% O ₂	-	193 ppm _v	
NO ₂ Average @ 3% O ₂	-	7.3 ppm _v	
POUNDS PER HOUR: (based on process feed rate 165TPD)	NO _x Average	-	13.45 Lbs./Hr.
	NO _x Range	-	11.1 to 18.2 Lbs./Hr.
	NO Average	-	8.46
	NO ₂ Average	-	0.489
POUNDS PER TON:	NO _x Average	-	1.99 Lbs./T
	NO _x "Worst Case"	-	2.22 Lbs./T
	Rolling Average (Time Period) (1 hr.)		
POUNDS PER 10 ⁶ Btu: (based on "as-received" municipal solid waste)	NO _x Average	-	0.35 Lbs./10 ⁶ Btu
	NO Average	-	0.224 Lbs./10 ⁶ Btu
	NO ₂ Average	-	0.0122 Lbs./10 ⁶ Btu

NOTE: Based on Typical Rotary Combustor Operating Conditions.

TABLE 5-23
ESP INLET AND OUTLET SO₂ CONCENTRATIONS
AND EMISSION RATES

Location	Date & Time	Feed Rate		SO ₂ ppm _v		Lbs./Hr. SO ₂	Lbs./T SO ₂	Lbs./ 10 ⁶ Btu
		% Design	Tm PH	@ Duct % O ₂	@ 12% O ₂			
ESP No. 2 Inlet	11/20/80 23:37 - 00:07	109	6.8	77.8 @ 11.4	72.9	13.7	1.83	0.328
ESP No. 1 Outlet	11/21/80 3:10 - 4:50	88	5.5	55.0 @ 14.4	75.3	10.0	1.65	0.295
ESP No. 1 Outlet	11/21/80 6:20 - 8:00	101	6.3	27.2 @ 12.4	28.5	4.8	0.69	0.124
ESP No. 2 Inlet	11/21/80 11:15 - 11:21	89	5.56	48 @ 10.0	39.2	8.3	1.36	0.243

Average 54 9.2 1.38 0.248

NOTE: As measured by U.S. EPA Method 5-8.

TABLE 5-24
TCA OUTLET SO₂ CONCENTRATIONS
AND EMISSION RATES

Location	Date & Time	Feed Rate		SO ₂ ppm _v		Lbs./Hr. SO ₂	Lbs./T SO ₂	Lbs./ 10 ⁶ Btu
		% Design	Tm PH	@ Duct % O ₂	@ 12% O ₂			
TCA Outlet	11/20/80 23:57 - 00:17	109	6.8	10.1 @ 11.4	9.5	1.8	0.24	0.043
TCA Outlet*	11/21/80 9:35 - 9:53	89	5.56	5.4 @ 10.0	4.4	0.9	0.15	0.027

Average 7.0 1.35 0.195 0.035

NOTE: As measured by U.S. EPA Method 6.

- * This test was completed as the simultaneous Inlet test was shut down and was not resumed when the Inlet test was restarted; therefore, the data cannot be used for TCA efficiency calculations.

TABLE 5-35
 EMISSION FACTORS (LBS/TON) FOR CO, NO_x AND SO₂
 CALCULATED FROM CEM DATA TAKEN DURING SAMPLING

Date & Time	EMISSION RATE (LB/HR)			FEED RATE (TPH)		EMISSION FACTORS (LB/TON)					
	CO	NO _x	SO ₂	During Sampling	Daily Avg.	CO		NO _x		SO ₂	
						During Sampling	Daily Avg.	During Sampling	Daily Avg.	During Sampling	Daily Avg.
2/7/83 1050 to 1437	10.22	10.25	2.94	3.88	3.86	2.6	2.6	2.6	2.6	0.76	0.76
2/8/83 0855 to 1150	37.82	10.44	9.41	3.81	4.0	9.9	9.5	2.7	2.6	2.5	2.4
2/8/83 1320 to 1500	6.31	10.16	9.23	4.63	4.0	1.4	1.6	2.2	2.5	2.0	2.3
2/8/83 1647 to 1825	9.25	9.92	9.71	5.06	4.0	1.8	2.3	2.0	2.5	1.9	2.4
2/9/83 0940 to 1215	18.42	6.59	10.48	4.12	3.79	4.5	4.9	1.6	1.7	2.5	2.8
2/11/83 1552 to 1735	25.23	7.27	26.70	3.86	3.3	6.5	7.6	1.9	2.2	6.9	8.1
AVERAGE						4.5	4.8	2.2	2.4	2.8	3.1

TABLE 5-45
NON-METHANE HYDROCARBONS (NMHC) CONCENTRATIONS, EMISSION RATES
AND EMISSION FACTORS AT THE COMBUSTOR OUTLET, FEBRUARY 7-11, 1983

Date & Time	CEM Concentration During Sampling (PPM wet at actual O ₂)*	Emission Rate (lb/hr)**	Feed Rate		Emission Factors	
			TPH	10 ⁶ Btu/hr	lb/ton	lb/10 ⁶ BTU
2/7/83 1050 to 1437	12	0.324	3.88	35.58	0.0835	0.00911
2/8/83 0855 to 1150	17.1	0.475	3.81	30.59	0.125	0.0155
2/8/83 1320 to 1500	30.7	0.858	4.63	32.96	0.185	0.0291
2/8/83 1647 to 1825	85.2	2.42	5.06	30.65	0.478	0.0790
2/9/83 0940 to 1215	90	2.33	4.12	28.41	0.566	0.0820
2/11/83 1552 to 1735	5.9	0.156	3.86	22.51	0.0404	0.00693
AVERAGE	40.2				0.232	0.0369

* Data as ppm carbon

** Data as methane, MW of 16.

TABLE 5-24
UNABATED (COMBUSTOR OUTLET) HEAVY METAL EMISSION RATES

Element	Average Weight %	Particulate Average lb/hr	Element E.R. (lb/hr)	Average Feed Rate		Emission Factors	
				TPH	10 ⁶ Btu/hr	10 ⁻³ lb/ton	10 ⁻⁴ lb/10 ⁶ -Btu
Arsenic (As)	0.0073	163.5	0.0119	3.74	29.01	3.18	4.10
Beryllium (Be)	<0.00011	163.5	<0.000180	3.74	29.01	<0.048	<0.062
Cadmium (Cd)	0.054	163.5	0.0883	3.74	29.01	23.6	30.4
Chromium (Cr)	0.018	163.5	0.0294	3.74	29.01	7.86	10.1
Selenium (Se)	<0.00033	163.5	<0.000540	3.74	29.01	<0.144	<0.186
Nickel (Ni)	<0.00076	163.5	<0.00124	3.74	29.01	<0.332	<0.427
Vanadium (V)	<0.0031	163.5	<0.00507	3.74	29.01	<13.6	<1.75
Zinc (Zn)	1.9	163.5	3.107	3.74	29.01	831	1,071
Lead (Pb)	0.626	163.5	1.024	3.74	29.01	274	353
Antimony (Sb)	0.085	163.5	0.139	3.74	29.01	37.2	47.9
Copper (Cu)	0.077	163.5	0.126	3.74	29.01	33.7	43.4
Manganese (Mn)	0.138	163.5	0.226	3.74	29.01	60.4	77.9
Molybdenum (Mo)	0.0037	163.5	0.00605	3.74	29.01	1.62	209
Tin (Sn)	<0.071	163.5	<0.116	3.74	29.01	<31.0	<40.0

TABLE 1.6-1. EMISSION FACTORS FOR WOOD AND BARK COMBUSTION IN BOILERS

EMISSION FACTOR RATING: B

Pollutant/Fuel Type	kg/Mg	lb/ton
Particulate ^{a,d}		
Bark ^c		
Controlled, with flyash reinjection ^d	7	14
Controlled, without flyash reinjection ^d	4.5	9
Uncontrolled	24	47
Wood/bark mixture ^c		
Controlled, with flyash reinjection ^{d,e}	3	6
Controlled, without flyash reinjection ^d	2.7	5.3
Uncontrolled ^f	3.6	7.2
Wood ^g		
Uncontrolled	4.4	8.8
Sulfur Dioxide ^h	0.074 (0.009 - 0.193)	0.148 (0.019 - 0.386)
Nitrogen Oxides(as NO ₂) ⁱ		
50,000-400,000 lb steam/hr	1.4	2.8
<50,000 lb steam/hr	0.34	0.68
Carbon Monoxide ^j	2-24	4-47
Nonmethane VOC ^k	0.8	1.7

^aReferences 2,4,9,17-18. For boilers burning gas or oil as an auxiliary fuel, assuming all particulates result from the waste fuel alone.

^bMay include condensible hydrocarbons consisting of pitches and tars, mostly from the back half catch of EPA Method 5. Tests reported in Reference 20 indicate that condensible hydrocarbons account for about 4% of total particulate by weight.

^cBased on moisture content of about 50%.

^dAfter the control equipment, assuming an average collection efficiency of 30%. Data from References 4, 7 and 8 indicate that 50% flyash reinjection increases the dust load at the boiler outlet (before control) by 1.2 to 1.5 times, while 100% flyash reinjection increases the load 1.5 to 2 times the load without reinjection.

^eBased on large dutch ovens and spreader stokers (averaging 23,430 kg steam/hr) with steam pressures from 10.5 - 42 kg/cm².

^fBased on small dutch ovens and spreader stokers (usually operating less than 9075 kg/hr of steam), with steam pressures from 2.3 - 17.6 kg/cm². Careful air adjustments and improved fuel separation and firing were used on some of these boilers, but the effects cannot be isolated.

^gReferences 12-13,19,27. Wood waste includes cuttings, shavings, sawdust and chips, but not bark. Moisture content ranges from 20 to 50% by weight. Based on 23 small boilers (less than 3,300 kg steam/hr) located in the States of New York and North Carolina.

^hReference 23. Based on tests of fuel sulfur content and sulfur dioxide emissions at four mills burning bark. The lower limit of the range in parentheses should be used for wood, and higher values for bark. A heating value of 4,987 kcal/kg (9,000 Btu/lb) is assumed. The factors are based on the dry weight of fuel.

ⁱReferences 7,24-26. It should be noted that several factors can influence emission rates, including combustion zone, temperatures, excess air, boiler operating conditions, fuel moisture and fuel nitrogen content.

^jReference 30.

^kReference 20. Nonmethane VOC reportedly consists of compounds with a high vapor pressure such as alpha pinene. Emission factors for methane are not available.

PROPOSED COMPLIANCE TEST METHODS

To the extent emission limits are imposed for the pollutants listed below, Westinghouse proposes the following compliance test methods:

Particulate Matter Emission Limit - EPA Methods 1 through 5

Visible Emission Limit - DER Method 9

(Note - Westinghouse also proposes to install and operate an opacity monitor for each stack)

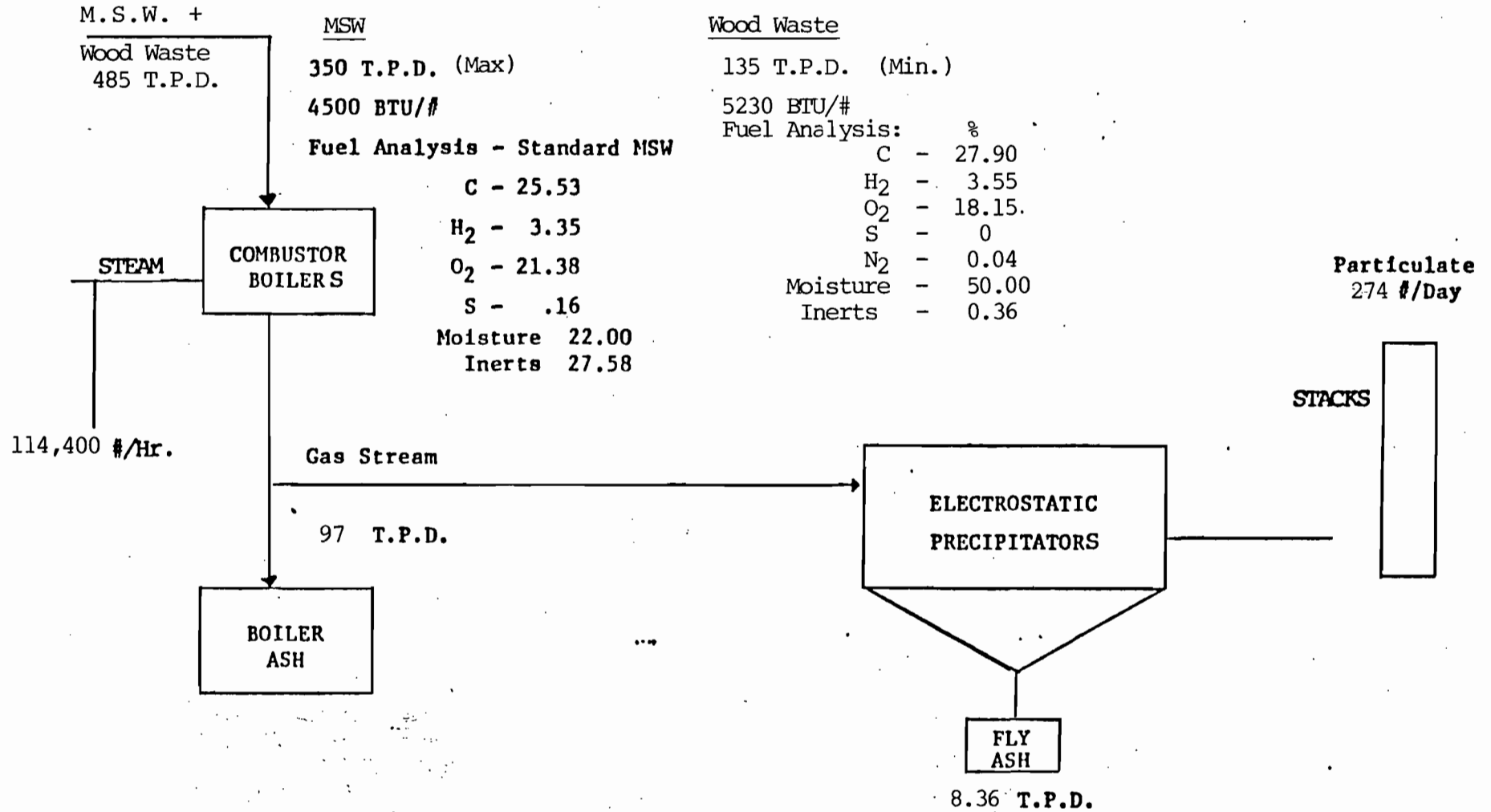
SO₂ Emission Limit - DER Method 6 or EPA Method 6A

NO_x Emission Limit - EPA Method 7, 7A or 7B

Stack sampling ports and access thereto will be provided in accordance with F.A.C. Rule 17-2.700(4).

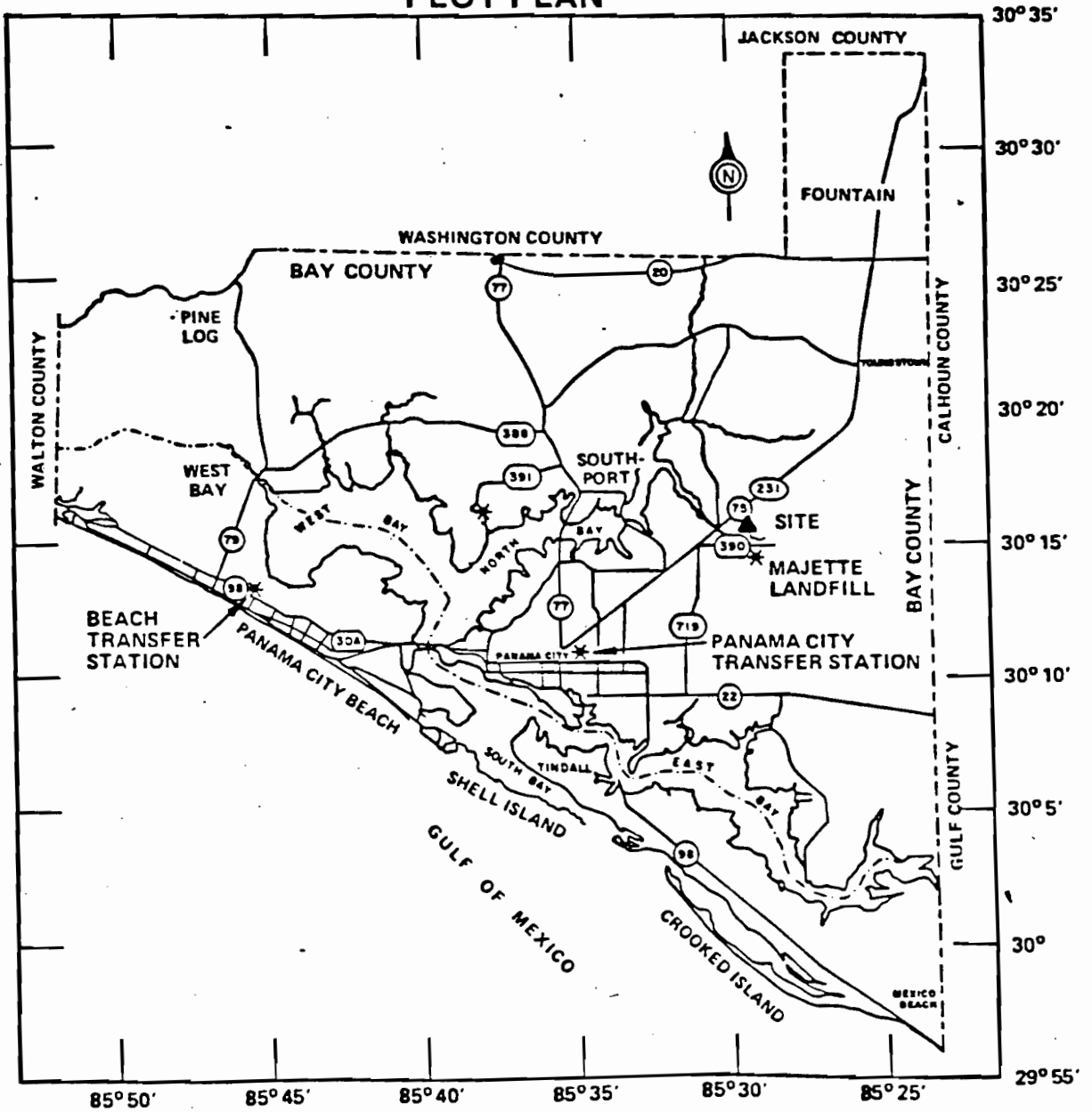
FLOW DIAGRAM

FLOW DIAGRAM



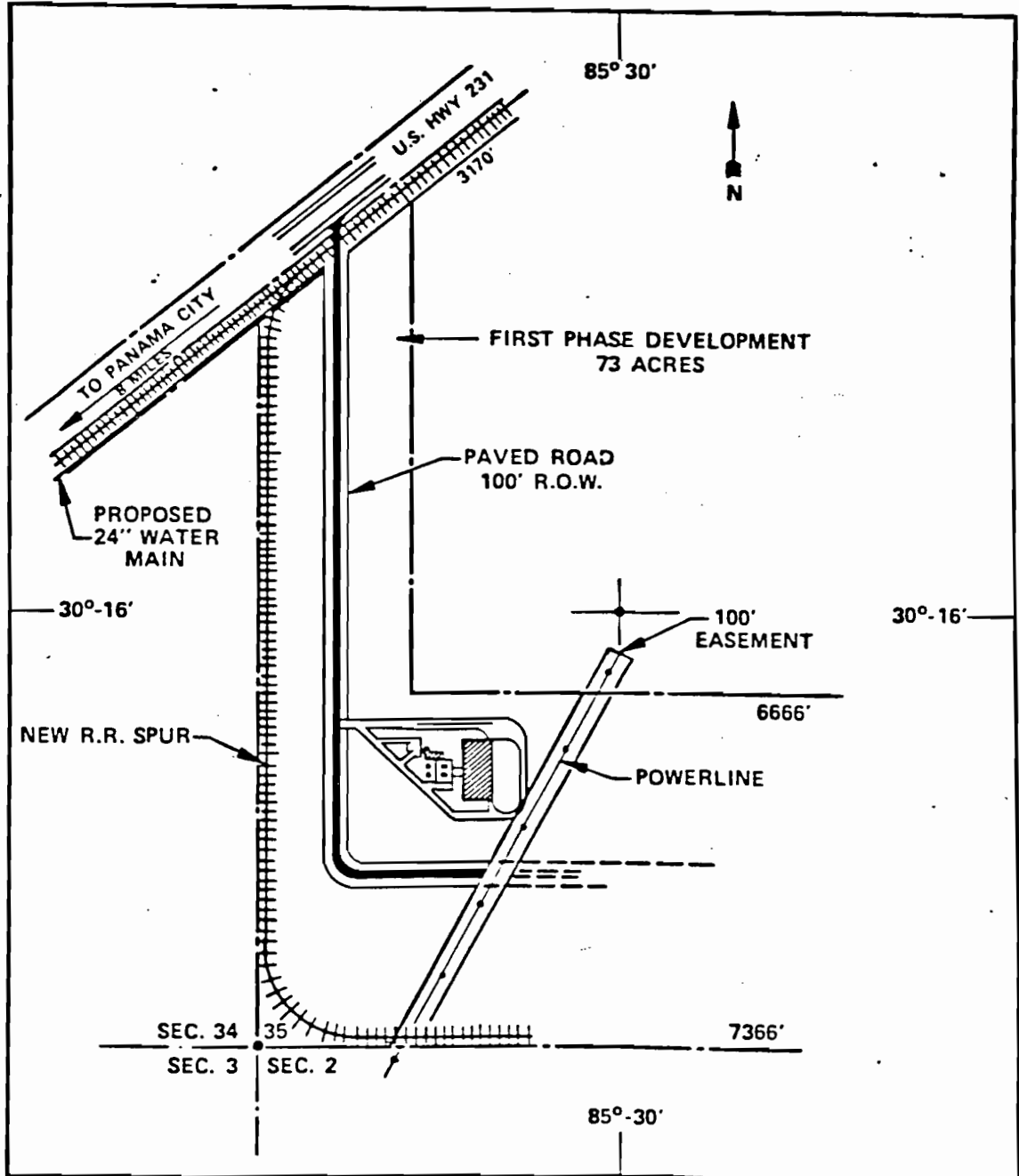
PLOT PLAN, SITE PLAN

 **Westinghouse**
Bay County Waste to Energy Project
PLOT PLAN




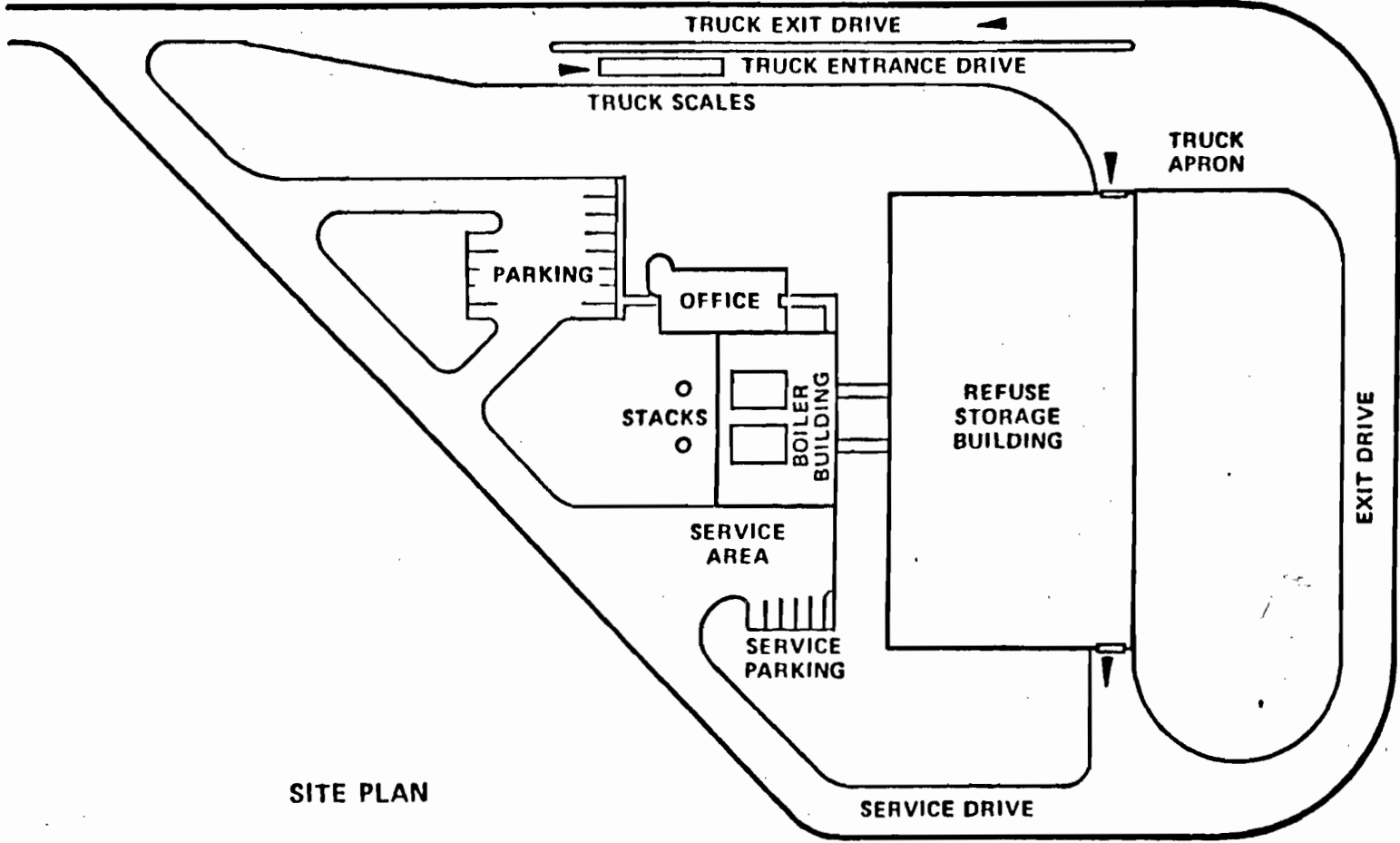
766245-1A

 **Westinghouse**
Bay County Waste to Energy Project
SITE PLAN



766245-2A

 **Westinghouse**
Bay County Waste to Energy Project
MUNICIPAL SOLID WASTE
FACILITIES



SITE PLAN

BACT ANALYSIS

BACT

Electrostatic Precipitators are operationally proven effective devices for removal of particulate matter from flue gas streams from solid fueled boiler furnaces. In Municipal Solid Waste fueled waterwall boilers, electrostatic precipitators have been established as effective control devices at most of America's successful MSW resource recovery plants. Several of these plants are Nashville, Tennessee; Chicago Northwest; Saugus, Massachusetts; Pinellas County, Florida; and Hampton, Virginia. These devices have operated with removal efficiencies of 99% and above.

Baghouse filters have been used for many years to remove particulate matter from dust laden gas or air streams. In addition, baghouse technology has been applied to solid fuel fired boilers, primarily coal fired units. Use of the baghouse technology for boilers has necessitated the development of material for the bag filter media which can withstand temperatures of 450° - 500°F range. Such materials are now available, and many successful baghouse installations on small and industrial sized coal fired boilers are in operation. The baghouse technology, however, while holding promise for the future, is not presently established as a reliable control device on municipal solid waste fired boilers. None of the MSW fired waterwall boilers installed in the United States during the last ten years have used a baghouse except Gallatin, Tennessee. This installation was not successful and the baghouse is presently being replaced by an electrostatic precipitator. The one successful baghouse installation on a municipal incinerator is the Framingham, Massachusetts Plant, which is not applicable since it is on a refractory wall incinerator, has no heat recovery and is preceded by a dry scrubber system.

Baghouses also have a higher pressure drop through the unit, resulting in a higher energy usage by fans.

Scrubbers are used to remove SO₂ and acid gasses from the flue gas stream, in addition to particulates. However, successful scrubber installations in the power industry on coal fired boilers all have particulate removal devices ahead of the scrubbers.

Both dry scrubbers and wet scrubbers are in service. In a dry scrubber, lime slurry is injected in the gas stream in quantities that allow the heat in the gas stream to evaporate the water in the lime slurry, allow the lime to react with SO₂ and acid gasses and allow the dry particulate matter to be collected in a baghouse or an electrostatic precipitator.

A wet scrubber passes flue gas through a curtain spray of lime slurry, completely saturating the flue gas stream. An example of a wet scrubber is an air washer in a heating,

ventilating, and air conditioning system. Saturated, actually supersaturated flue gasses, include entrained droplets. An example of a wet scrubber on a municipal solid waste resource recovery plant was the disastrous experience in Nashville, where the low energy wet scrubber failed to meet air quality standards, and was replaced with electrostatic precipitators.

There is a dry scrubber on the Framingham, Massachusetts, incinerator mentioned earlier. This installation is, however, not comparable to a waterwall power boiler installation.

All scrubber technologies add to the residue produced, with either a dry particulate that includes reagent and by-products in addition to the dust in the flue gas, or with a wet sludge. This waste stream can be twice the weight of flue gas particulate.

Wet scrubbers are in use in some coal fired steam electric stations. The plants are characterized by a constant vapor plume from the stack. Scrubbers remove about 1% more particulate from the gas stream, but generate twice the amount of solid waste, use more energy, and increase capital and operating cost.

BACT Pollutants and
Control Technologies

<u>Pollutant</u>	<u>Control Technologies</u>
Particulate Matter	Electrostatic Precipitator Baghouse (Fabric Filter)
Sulfur Dioxide	Wet Scrubber Dry Scrubber Low Sulfur Fuel (As is MSW)
Nitrogen Oxide	Ammonia Injection Catalytic Reduction Low Excess Air Designs* Operating Procedures
Carbon Monoxide	Boiler-Burner Design Operating Procedures

*Such as is inherent in the design of the O'Connor Combustor.

ESTIMATED COSTS
 COSTS OF EMISSION CONTROL
BAY COUNTY, FLORIDA

	<u>Electrostatic Precipitators</u>	<u>Fabric Filter</u>	<u>Dry Scrubber Plus Fabric Filter</u>
Capital Investment	\$1,100,000	\$800,000	\$2,600,000
Operating & Maintenance Costs	60,000	45,000	120,000
Debt Service	192,000	140,000	455,000
Total Annual Costs	252,000	185,000	575,000
Removal Efficiency	99%	99%+	99%+

ADDITIONAL IMPACTS ANALYSIS

ATTACHMENT "H" - ADDITIONAL IMPACT ANALYSES

This analysis addresses the effects of the proposed Bay County Resource Recovery Facility and associated development on visibility, soils and vegetation having a significant commercial or recreational value, as well as the air quality impact projected for the area as a result of general commercial, residual, industrial and other growth.

Growth Analysis

Bay County is a growing community in Northwest Florida, with a population of 97,175 (including resident population of Tyndall Air Force Base) according to the 1980 census. This represents a 29% population increase over the 1970 figure of 75,283.

Population projections for Bay County, as prepared by the University of Florida's Bureau of Economics and Business Research and reported in the Florida Statistical Abstract (1979), are as follows:

<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>2000</u>
97,175	112,400	124,100	144,800

These figures represent a projected growth rate of approximately 2% per year.

The construction force for the proposed facility is expected to comprise approximately 100 people, or only 0.1% of the Bay County population. It is anticipated that the construction force will be from the Bay County vicinity, with the exception of supervisory personnel. Consequently, no growth-related impacts are expected from the construction phase of the project.

Operation of the Resource Recovery Facility will require approximately 30 persons. Most operating personnel will be recruited from the Bay County area. Consequently, no residential or associated commercial growth impact is expected to result from operation of the proposed facility itself.

It is possible that the proposed facility will induce development of manufacturing or other industrial plants in the adjacent industrial park, in view of the availability of steam to be produced by the Resource Recovery Facility. At this time it is impossible to predict what type of plants might seek to locate at the industrial park, or what air quality or other environmental impacts might be associated with such development.

Visibility Analysis

The proposed facility will emit relatively small amounts of particulates, sulfur dioxide and nitrogen oxides. Based on these low emission rates and the distance to the nearest Class I area, EPA's "Workbook for Estimating Visibility Impairment" indicates that the proposed facility will not cause adverse visibility impairment in any Class I area.

In regard to local visibility impacts, it should be emphasized that the proposed particulate emission control equipment (ESP) should allow the Bay County facility to operate with no visible emissions. The clear stack will ensure that there will be no local visibility impairment from this facility.

Vegetation Impact Analysis

Maximum concentrations of criteria pollutants, which are predicted to occur in close proximity to the Bay County facility, are far below the levels known to affect relevant plant species. Consequently, no impairment to vegetation with significant commercial or recreational value is expected to occur from the proposed facility.

Soils Impact Analysis

Bay County lies in the Gulf Coastal Plain, and soils in the vicinity consist primarily of sand overlying silt and organic layers. Organic soils act as nutrient traps and can adsorb sulfates, nitrates and any metals resulting from deposition of sulfur dioxide, nitrogen oxides and particulates with little change in pH. While deposition of these compounds can increase the acidity of sandy soils, the extremely low concentrations resulting from the proposed facility are expected to have a negligible effect on soil pH.

LIST OF REFERENCES

LIST OF REFERENCES

- Cooper Engineering; "Air Emissions Tests of Solid Waste Combustion in a Rotary Combustor/Boiler System at Gallatin, Tennessee."
- Cooper & Clark Engineering; "Air Emissions Tests of Solid Waste Combustion in a Rotary Combustor/Boiler System at Kure, Japan."
- Hahn, Jeffrey L.; "Air Emission Measurement of MSW Combustion"; Cooper Engineers, Inc.
- U.S. Environmental Protection Agency (1980) - "Workbook for Estimating Visibility Impairment." Office of Air, Noise and Radiation/Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina.
- U.S. Environmental Protection Agency (1982) - "Compilation of Air Pollutant Emission Factors"; External Combustion Sources, §1.6 "Wood Waste Combustion in Boilers" (8/82)

AIR QUALITY DISPERSION MODELING REPORT

(Will be supplied in near future)



Westinghouse
Electric Corporation
BCP:84-018

Advanced Power Systems
Divisions

Waste Technology Services Division

Box 10864
Pittsburgh Pennsylvania 15236-0864
(412) 892 5600

March 22, 1984

DER
MAR 26 1984
BAQM

State of Florida
Department of Environmental Regulations
Central Air Permitting Section
Bureau of Air Quality Management
2600 Blairstone Road
Tallahassee, Florida 32301

Gentlemen:

Attached are four copies of the State of Florida Department of Environmental Regulation "Application to Operate/Construct Air Pollution Sources" for the Bay County Waste-to-Energy Project being designed and constructed by Westinghouse Electric Corporation, Waste Technology Services Division. Your prompt processing of this application is requested. Any questions regarding the application contract should be addressed to:

F. S. Pollier/J. D. Phillips
Westinghouse Electric Corporation
Waste Technology Services Division
P.O. Box 10864
Pittsburgh, PA 15236

A check for the amount of \$2,000.00 is enclosed as the application fee per direction of T. Moody, Florida Department of Environmental Regulation, Pensacola, Florida.

Sincerely,

F. S. Pollier
Project Manager
Bay County Project

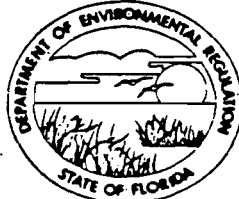
Enclosures

- cc: J. W. Bohlig
- L. P. Duffy
- J. W. Fisch
- G. B. Levin
- R. L. Grandy
- J. D. Phillips
- V. Campbell
- C. J. Bailey, EPR
- G. Layman, Gulf Power Co.
- L. Burke, Bay County Attorney
- W. May, Sanders & Thomas
- W. H. Green, HBGS

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AC 03-84703
AC 03-84704

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



DER

BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

MAR 26 1984

BAQM

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Resource Recovery Facility comprising*

SOURCE TYPE: 2 Carbonaceous Fuel Boilers fired New¹ [] Existing¹
Primarily by Municipal Solid Waste

APPLICATION TYPE: Construction [] Operation [] Modification

Bay County Energy Resources "A Joint Venture"

COMPANY NAME: 5433 Westheimer, Suite 1106, Houston, Texas 77056 COUNTY: Bay

c/o Environmental Resources Inc.

Identify the specific emission point source(s) addressed in this application (i.e. Lime
Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) 2 MSW-fired boilers with
Electrostatic Precipitators

SOURCE LOCATION: Street U.S. Highway 231 city Panama City

UTM: East _____ North _____

Latitude 30 ° 15 ' _____ "N Longitude 85 ° 30 ' _____ "W

APPLICANT NAME AND TITLE: Bay County Energy Resources, "A Joint Venture" C.J. Bailey, President

APPLICANT ADDRESS: c/o Westinghouse Waste Technology Services Division, Bay County Waste-to
Energy Project, P.O. Box 10864, Pittsburgh, PA 15236, Attention: F. S. Pollier

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

Project Manager

A. APPLICANT

Bay County Energy Resources
"A Joint Venture"

I am the undersigned owner or authorized representative* of _____

I certify that the statements made in this application for an Air Pollution Sources
permit are true, correct and complete to the best of my knowledge and belief. Further,
I agree to maintain and operate the pollution control source and pollution control
facilities in such a manner as to comply with the provision of Chapter 403, Florida
Statutes, and all the rules and regulations of the department and revisions thereof. I
also understand that a permit, if granted by the department, will be non-transferable
and I will promptly notify the department upon sale or legal transfer of the permitted
establishment.

*Attach letter of authorization

Signed: _____

Environmental Protection Resources, Inc., General Partner; C. J. Bailey, Jr.
Name and Title (Please Type) President

Date: 3/21/84 Telephone No. (713) 626-5691

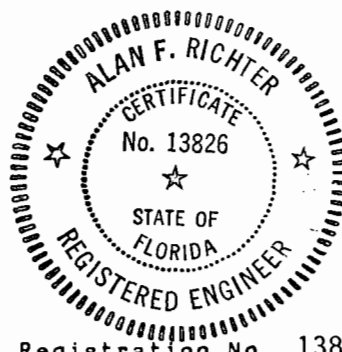
B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have
been designed/examined by me and found to be in conformity with modern engineering
principles applicable to the treatment and disposal of pollutants characterized in the
permit application. There is reasonable assurance, in my professional judgment, that

* See Florida Administrative Code Rule 17-2.100(57) and (104)

* See definitions at 17-2.100(28) and (29), F.A.C.

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed *[Signature]*

Alan F. Richter, P.E., President
Name (Please Type)

STV ENGINEERS, INC.
Company Name (Please Type)

11 Robinson St., Pottstown, PA 19464
Mailing Address (Please Type)

Florida Registration No. 13826 Date: 3/21/84 Telephone No. 215-326-4600

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment II.A.

B. Schedule of project covered in this application (Construction Permit Application Only)
Start of Construction 4th Quarter 1984 Completion of Construction 4th Quarter 1986

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Preliminary engineering estimates for two (2) electrostatic precipitators
are \$1,100,000. This figure includes the cost of precipitators, transformer-
rectifier units, heated-insulated ash hoppers, and controls.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

None

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr 8760 ; if seasonal, describe: _____

This facility is expected to be in continuous operation except for maintenance
outages. Full capacity of 350 tons per day of MSW will not normally be realized
except in the summer vacation season. Wood chips will be burned as supplemental
fuel.

F. If this is a new source or major modification, answer the following questions.
(Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
a. If yes, has "offset" been applied? _____
b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
c. If yes, list non-attainment pollutants. _____

2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? No

a. If yes, for what pollutants? _____

b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: N/A

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 29166.6 lbs/hr MSW and/or Wood Chips

2. Product Weight (lbs/hr): 78,000 lbs/hr Steam

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

For each of the two incinerator-boilers/stacks:

Name of Contaminant	Emission ¹		Allowed ² Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual* T/yr			lbs/hr	T/yr	
Particulate	3.64	14.986	30% Opacity 0.2 lb/MMBtu	3.64	255	1049.9	
CO	30.125	124.03	per 17-2.600 (10)(b)2.b.	-	30.125	124.03	
NO _x	16	67.21	-	-	16	67.21	
SO ₂	10	42.16	-	-	10	42.16	
HC-(non-methane)	1.7	7.3	-	-	1.7	7.3	
Lead	0.0227	187 lb/Yr	-	-	0.0227	187 lb/Yr	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* Based on 94% Capacity factor.

J. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Electrostatic Precipitator	Particulate/Lead	Approximately 99%		Cooper & Clark Table 5-11

E. Fuels For each of the two units:

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Municipal Solid Waste	11458.3	14583.3	65.5
Wood Chip		Approx. 8000	
Natural Gas	Will be used only for startup and shutdown	60 MMCF/Hr.	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis: For Standard MSW

Percent Sulfur: 0.16 Percent Ash: 27.58 (typical)
 Density: N/A lbs/gal Typical Percent Nitrogen: None
 Heat Capacity: 4500 BTU/lb N/A BTU/gal

Other Fuel Contaminants (which may cause air pollution): Primary fuel will be type III
municipal solid waste. Small quantities of lead will be present. No hazardous wastes
will be accepted for burning.

F. If applicable, indicate the percent of fuel used for space heating. Not applicable.

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Bottom ash and fly ash to be co-mingled and transported to Bay County Landfill
All liquid wastes (cooling tower blowdown, boiler blowdown, ash quench water
overflow, excess cooling water, sanitary waste, plant washdown water) will be
pretreated and discharged through sanitary sewers to the Bay
County sewage treatment plant.

4. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 2 stacks each 125 ft. Stack Diameter: 4 ft.
 Gas Flow Rate: 29,246 ACFM 15,245 DSCFM Gas Exit Temperature: 400 °F.
 Water Vapor Content: 20 % Velocity: 2500 FPM ~~XXX~~

SECTION IV: INCINERATOR INFORMATION - Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

ESP

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

- 1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
- 4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
- 5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
- 6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
- 7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
- 8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY N/A

- A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration

- B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

- D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft.
- b. Diameter: ft.
- c. Flow Rate: ACFM
- d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION N/A

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No
- b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

- 1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
- 2. Surface data obtained from (location) _____
- 3. Upper air (mixing height) data obtained from (location) _____
- 4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

- 1. _____ Modified? If yes, attach description.
- 2. _____ Modified? If yes, attach description.
- 3. _____ Modified? If yes, attach description.
- 4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate	
TSP	_____	grams/sec
SO ²	_____	grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ATTACHMENT II.A.

This project involves the construction of a resource recovery facility that will generate steam-electric power by burning the combustible fraction of municipal solid waste from Bay County. The project represents the Bay County Commission's response to solid waste management planning for the future. The facility will consist of two (2) O'Connor RC 100 combustor units with provision for future addition of a third unit. Initial capacity of the facility will be 350 tons per day of municipal solid waste. Wood chips will be available as a supplemental fuel to maximize plant capacity factor and revenues. Steam produced in the two incinerator-boilers will be used to produce electrical energy by turbine generators, which will be sold to Gulf Power Company. Design of the facility will provide for future steam sales for manufacturing or other uses in the adjacent industrial park.

Electrostatic precipitators are proposed for control of particulate emissions from the incinerator-boilers. This choice is based upon successful operating experience with this control technology in resource recovery facilities utilizing waterwall boilers for the incineration of municipal solid waste in Nashville, Tennessee; Saugus, Massachusetts, Hampton, Virginia; and Pinellas County, Florida. The design criteria for particulate emissions from the precipitators will be 0.02 grains per standard cubic foot, corrected to 12% CO₂. This represents a particulate removal efficiency of approximately 99%.

The use of baghouse technology has been rejected for this project in view of the baghouse failure at Gallatin, Tennessee and the lack of experience with baghouses on existing municipal solid waste incinerator-boilers. The early failure involving the use of a wet scrubber at the Nashville facility, and the lack of successful operating experience on waterwall boilers equipped with dry scrubbers in the U.S.A., form the basis of the decision not to utilize scrubber technology for this project.

As proposed, this project will result in full compliance with all applicable requirements of Florida Administrative Code Chapter 17-2.

**BASIC DATA
RESOURCE RECOVERY PLANT
BAY COUNTY, FLORIDA**

Introduction

This document presents design criteria on the proposed Bay County project. Plant capacity will be 350 tons per day of municipal solid waste. Data from scales at the Majette Tower Landfill indicate a maximum of 350 TPD, a minimum of 250 TPD, and an annual 100,000 tons of MSW. Supplemental wood chip fuel will be available to maximize plant capacity and revenues. The plant will be designed with two O'Connor RC 100 Combustor units with provision for future addition of one additional unit. Energy produced by turbine generators will be sold to Gulf Power Company. Future steam sales will be provided for in plant design.

Site

The plant site will be in an Industrial Park approximately eight miles from the center of Panama City on U.S. Highway 231. Gulf Power has a 115 kV line adjacent to the site.

Architectural and Civil

The plant will be designed to present an aesthetically attractive grouping of buildings and equipment. MSW is to be weighed on automatic scales and tipped on a reinforced concrete slab in a 140' x 260' rigid frame building. Reclaiming of waste will be with a rubber tired front end loader to two (2) four feet (4') wide pan conveyors. Each conveyor is 90 feet long and transfers material to a second conveyor which terminates at the hopper of each combustor train. Floor storage in the center of

the building, away from all walls, will accommodate over 1000 tons of MSW and still leave room for truck traffic. An additional reclaiming with a knuckle boom loader will be provided in the center of the building. The building will be designed for access by 18 wheel semi-trailers now in service from the two transfer stations in Panama City. Provision for individuals in small vehicles is to be provided. Elevation is to be compatible with conveyor runs to the power train and power train elevation. Center line of the conveyors to the combustor hoppers is 35 feet. A building extension over the conveyors is to be provided, along with walkways by each conveyor. A gravity roof ventilator is to be provided. In addition, combustion air is to be ducted from the building extension to the forced draft fans.

No additional equipment is proposed for acceptance of wood chips. They will be stored as is MSW and mixed by the operator in the storage building.

All equipment foundations will be on piling. Designers will provide soil borings as required.

An office building will be designed for four day personnel, a conference room, and a change room for plant operating and maintenance personnel. Visual access from the office building to the scale is required. Parking is required. Roads will be provided. Property is to be fenced with chain link galvanized fencing.

A building to enclose the power train is to match the refuse storage building.

Sewer and water to the site are to be provided by others.

Process Train

The process train from the hopper on the combustor to the stack will be designed by Westinghouse. It is intended to have a left hand and a right hand boiler with soot blowers offset and in the center between the units. The stack will be four feet in diameter, self supporting, with a ladder to an E.P.A. test platform. Copper bearing steel is to be used to minimize corrosion. Stack height is to be a nominal 125 feet. No taper or high velocity nozzles are to be on the stacks.

Mechanical

Equipment design for plant is to include:

Turbine Generators

Condensers - with Appurtenances

Cooling Tower

Circulating Water Pumps

Boiler Feed Pumps

Deaerating Heater and Storage Tank

Condenser Water Pumps

Switchgear

Ash Hopper - Boiler

Ash Hopper - Siftings

Ash Conveyors

Instrument and Control System

Air Compressor(s)

Boiler Blowdown Flash Tank

Support Facilities for air emission equipment. It is

intended to use an electrostatic precipitator for control of particulate emissions.

Boiler water treatment facilities are to be designed for 100% makeup.

All support facilities for the power plant are to be provided. Items such as P.A. systems, CCTV, sump pumps and any item not listed but required in the proper operation of the plant is to be a part of this scope.

Pretreatment of quench water prior to discharge to sewer is required.

Air compressors should be designed for air puff sootblowers. This is an interface item with Westinghouse.

Electrical

Maximum energy efficiency in the plant is to be provided. Energy efficient electric motors are to be designed into the plant. Lighting is to be high pressure sodium vapor.

The four fan drive motors are to be AFAC (adjustable frequency/alternating current).

Interface with Gulf Power and Southern Services will be required. Possible subcontract to Southern Services for generator terminals to switchyard is pending.

Maximum usage of cable trays for all electrical and instrument lines is required. Minimum conduit.

Southern Services will design 115/12 kV substation on a one acre site between the plant and their 115 kV line. Their substation will be sized for future growth in the Industrial Park.

Particulate Emissions
(Controlled)

Bay County, Florida
Resource Recovery Plant

Particulate Emission Factors
Kure City, Japan
Electrostatic Precipitator

.5#/Ton MSW Input

$$\frac{.5 \times 350}{2 \times 24} = 3.64 \text{ \#/Hr/Stack}$$

$$3.64 \times 24 \times 365 \times .94 = 29,973 \text{ \#/Yr/Stack}$$

$$\frac{29,973}{2000} = 14.986 \text{ Tons/Yr/Stack}$$

Ref.: Table 5-11

Cooper & Clark Report
Kure City, Japan
1981

TABLE 5-11
PARTICULATE EMISSION FACTORS AND ESP EFFICIENCY

Feed Rate		Unabated Emissions		Abated Emissions		ESP Efficiency	
% Design	Tm/PH	EPA BAAQMD Lbs./T	Other Calif. Lbs./T	EPA BAAQMD Lbs./T	Other Calif. Lbs./T.	EPA BAAQMD %	Other Calif. %
88	5.5	37.85	•	0.307	0.473	99.19	98.83
89	5.56	28.29	30.25	--	--	--	--
101	6.33	25.99	•	0.405	0.564	98.44	97.90
109	6.8	32.75	33.82	--	--	--	--
Average of all tests		31.22	32.04	0.356	0.518	98.82	98.35
U.S. EPA Method 5-8 Average		30.52	32.04	0.356	0.518		
Average Lbs./10 ⁶ Btu of all tests		5.58	5.72	0.064	0.092		
U.S. EPA Method 5-8 Lbs./10 ⁶ Btu Average		5.45	5.72	0.064	0.092		



CO Emissions

Bay County, Florida
Resource Recovery Plant

CO per million Btu input =

$$\begin{array}{rcl}
 \text{Emission Factor} & \text{Tons/Day} & \text{10}^6 \text{ BTU} = \\
 .459 \text{ \#co/10}^6 \text{BTU} & \times 350 & \times 9 \text{ BTU/Ton} \\
 & & = 1446 \text{ \#/Day} \\
 & & = 60.25 \text{ \#/Hr.} \\
 & & = 30.125 \text{ \#/Hr/Stack}
 \end{array}$$

$$\begin{array}{rcl}
 \text{\#/Day} & \text{Days} & \text{Plant Availability} \\
 1446 & \times 365 & \times .94 \\
 \hline
 & 2000 & = 248.06 \text{ tons/year}
 \end{array}$$

Reference: Table 5-37
Cooper Engineers Report
Gallatin, Tennessee
December 1983

Assumptions: Typical MSW - 4500 Btu/#
Plant Availability - 94%

TABLE 5-37

CO EMISSIONS FACTORS USING EPA F-FACTOR
CALCULATED FROM CEM DATA TAKEN DURING SAMPLING

$$E = Cd Fd \left(\frac{20.9}{20.9 - \%O_2} \right)$$

E = Pollutant Emission Rate, lb/10⁶ Btu

Cd = Pollutant Concentration (dry) lb/scf
= ppm CO x 0.7276x10⁻⁷

% O₂ = 7% O₂ dry

Date	CO Conc. at 7% O ₂	Cd x 10 ⁻⁷ (lb/scf)	Fd (scf/10 ⁶ Btu)	E (lb/10 ⁶ Btu)
2/7/83 1050 to 1437	254	184.81	8,875	0.247
2/8/83 0855 to 1150	928	675.21	9,019	0.916
2/8/83 1320 to 1500	150	109.14	9,973	0.164
2/8/83 1647 to 1825	222	161.53	9,168	0.223
2/9/83 0940 to 1215	482	350.70	7,803	0.411
2/11/83 1552 to 1735	650	472.94	11,395	0.810
AVERAGE	448	325.96	9,372	0.459

Lead Emissions

Bay County, Florida
Resource Recovery Plant

Lead as Wt. % of Particulate

Kure City, Japan	0.754%
Gallatin, Tenn.	0.626%

Particulate

$$\frac{3.64 \text{ \#/Hr/Stack} \times .626}{100} = 0.227 \text{ \#/Hr/Stack}$$

$$\frac{14.986 \text{ Tns/Yr} \times .626}{100} = .0938 \text{ Tons/Yr/Stack}$$

$$.0938 \times 2000 = 187 \text{ \#/Yr/Stack}$$

Particulate - Unabated

Bay County, Florida
Resource Recovery Plant

Particulate - Potential Emission Uncontrolled

Particulate Emission Factors
Kure City, Japan
ESP

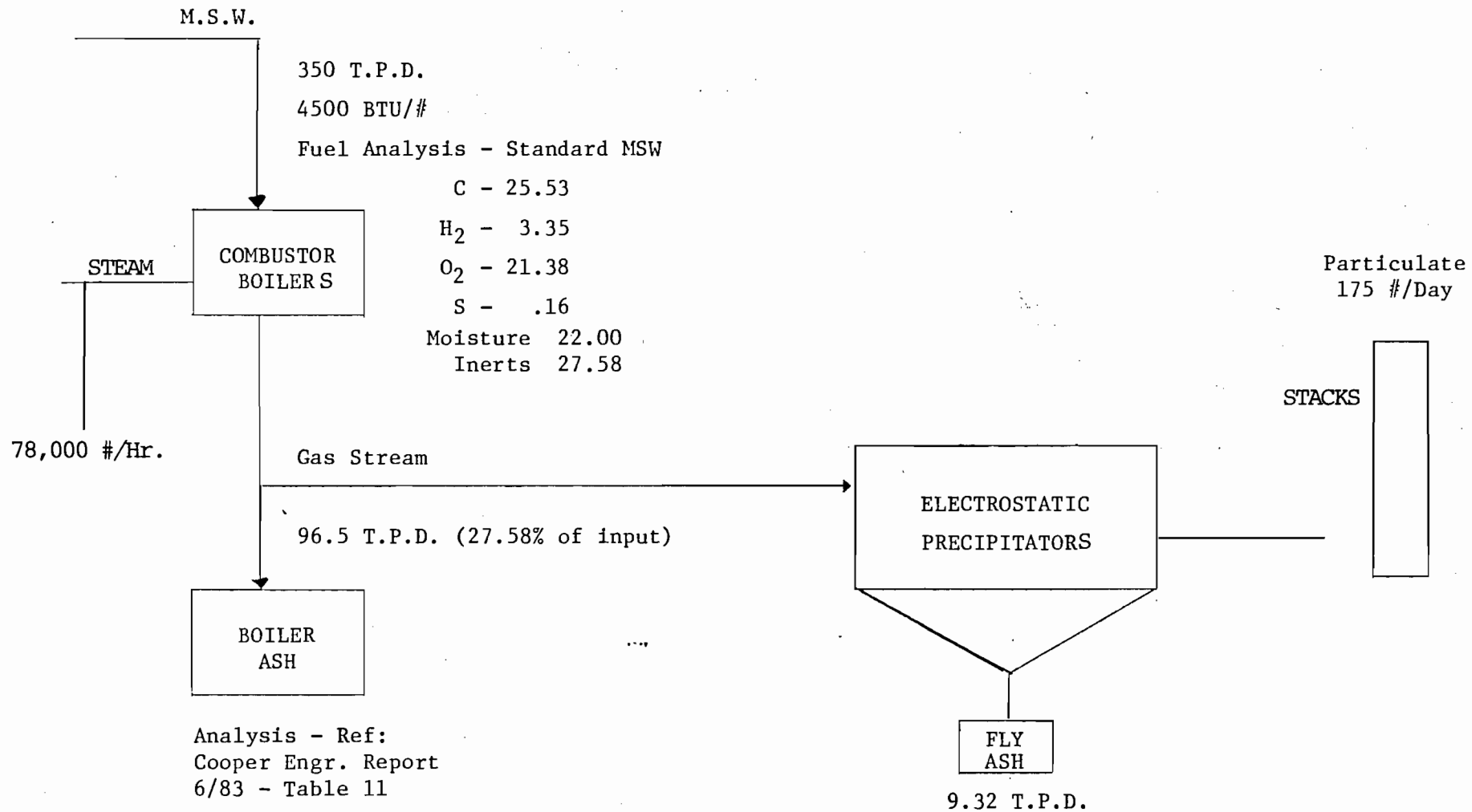
35#/Ton MSW input

$$\frac{35 \times 350}{2 \times 24} = 255 \text{ \#/Hr/Stack}$$

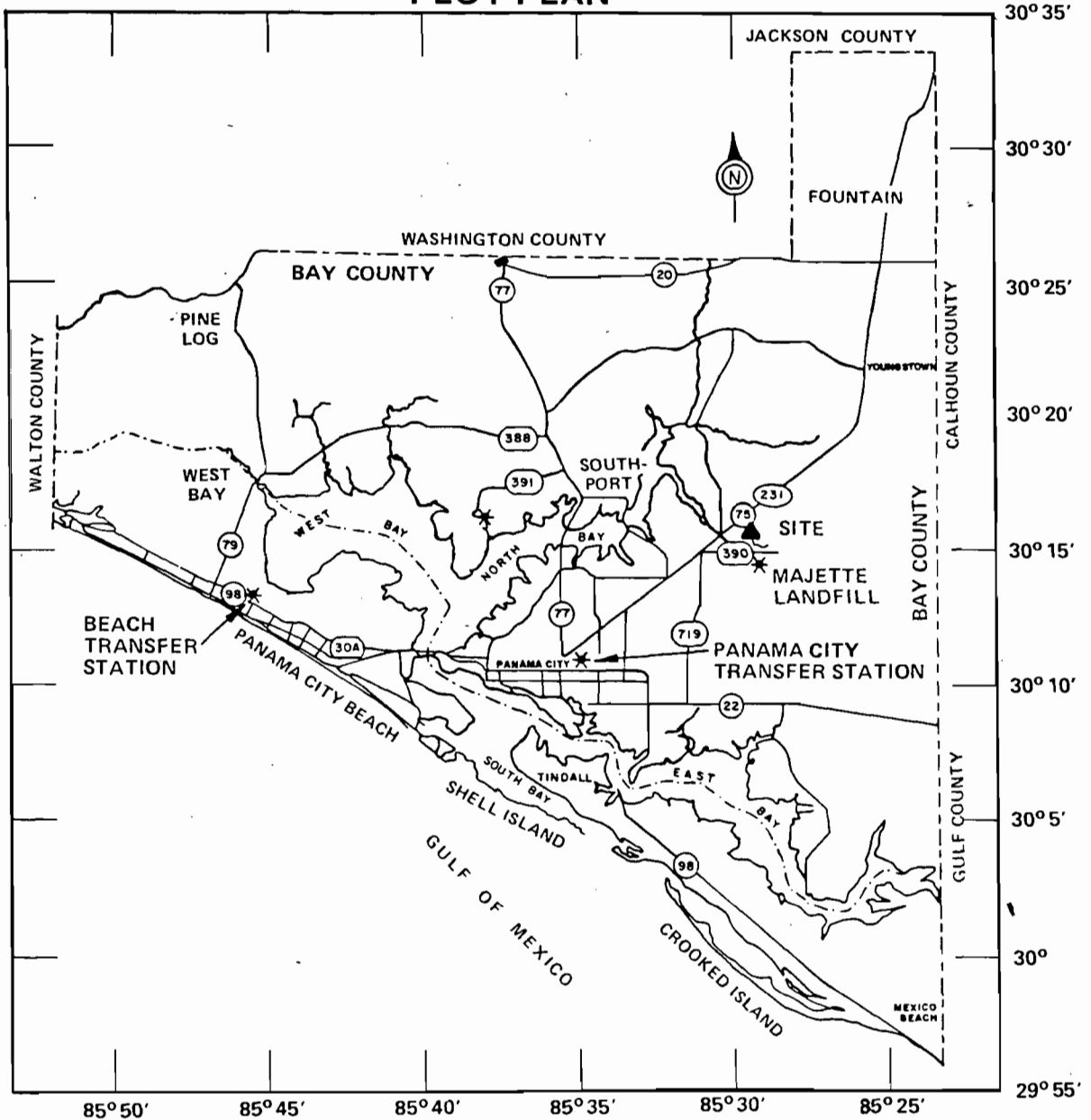
$$255 \times 24 \times 365 \times .94 = 2,099,772 \text{ \#/yr/stack}$$

$$\frac{2,099,772}{2000} = 1049.9 \text{ tons/yr/stack}$$

FLOW DIAGRAM

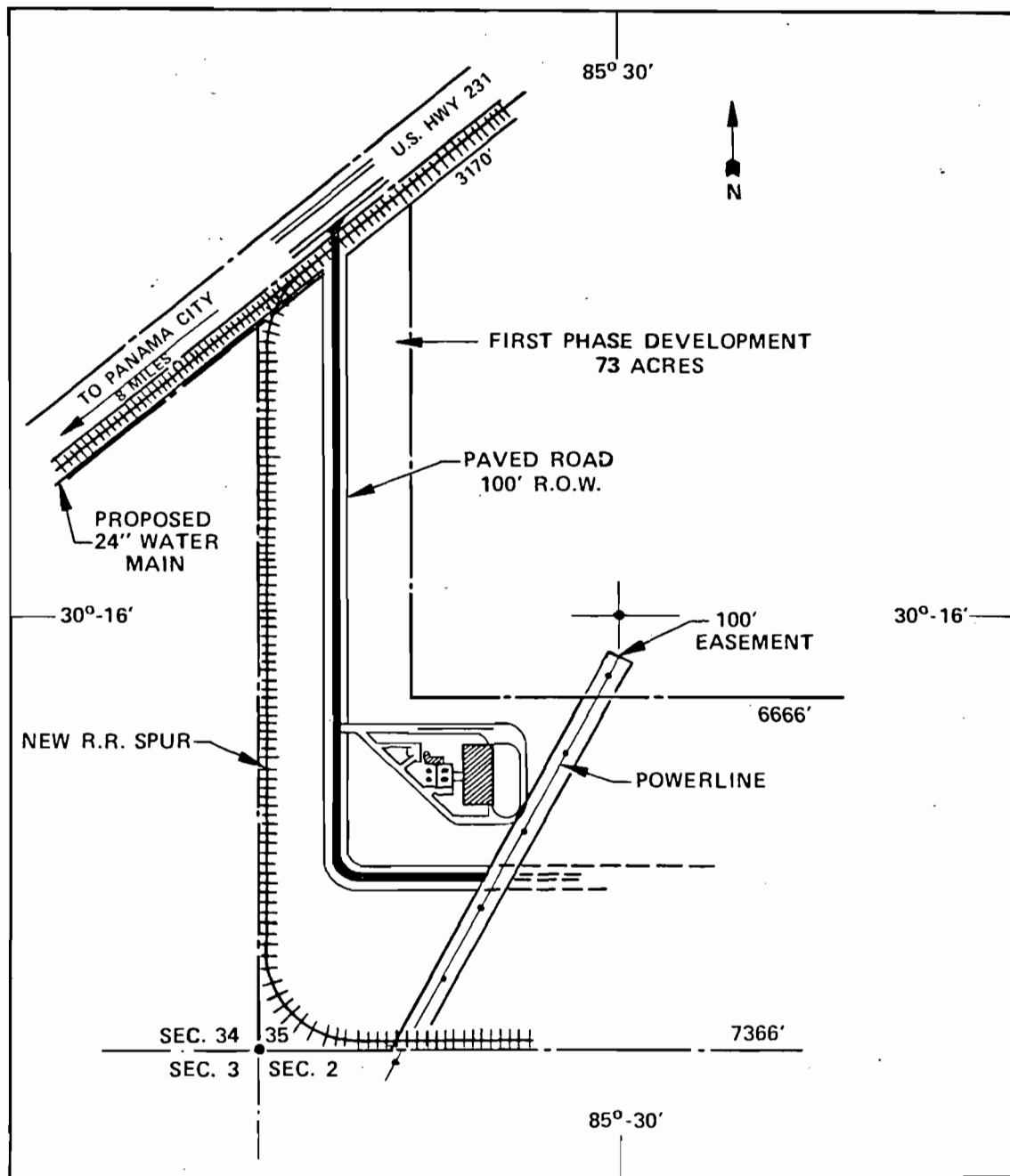



Westinghouse
Bay County Waste to Energy Project
PLOT PLAN




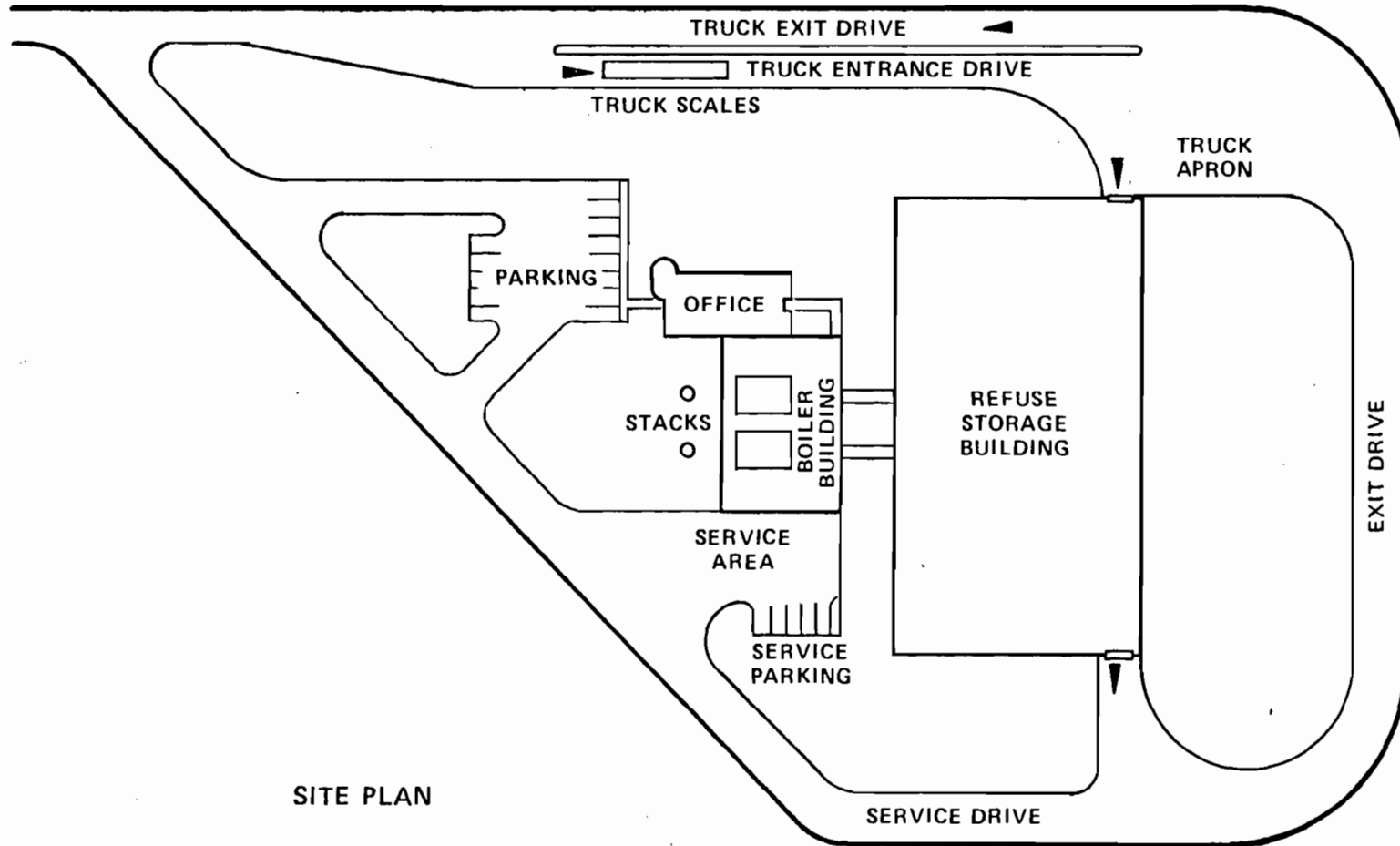
766245-1A


Westinghouse
Bay County Waste to Energy Project
SITE PLAN



766245-2A

 **Westinghouse**
Bay County Waste to Energy Project
MUNICIPAL SOLID WASTE
FACILITIES



SITE PLAN

Bay County

HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

SUITE 420, LEWIS STATE BANK BUILDING
POST OFFICE BOX 6526

TALLAHASSEE, FLORIDA 32314

(904) 222-7500

CARLOS ALVAREZ
BRIAN H. BIBEAU
WILLIAM L. BOYD, IV
WILLIAM H. GREEN
WADE L. HOPPING
RICHARD D. MELSON
WILLIAM D. PRESTON
GARY P. SAMS
ROBERT P. SMITH, JR.

ELIZABETH C. BOWMAN
RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
FRANK E. MATTHEWS
STEVEN A. MEDINA
CAROLYN S. RAEPPLE

April 16, 1984

OF COUNSEL
W. ROBERT FOKES

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

Re: Bay County Waste-to-Energy Project
Air Construction Permit Application

Dear Steve:

I am writing on behalf of the Waste Technology Services Division of Westinghouse Electric Corporation (Westinghouse) in regard to its application for an air construction permit for a municipal-solid-waste-fired steam electric generating facility in Bay County, Florida. The purpose of my letter is to set forth our position and supporting facts regarding a PSD applicability issue that has arisen in connection with the permit application.

I would emphasize at the outset that neither the emission control technology nor the environmental impacts of the facility are likely to be affected by the outcome of the PSD applicability question. Westinghouse's concern on this point is simply to avoid unnecessary delays in the permitting process that would be probable if PSD review were required for this facility. Mr. Larry Lukin, the Department's Industrial Development Coordinator, suggested that we express our concerns to you with the goal of arriving at a mutually acceptable resolution of this matter. The discussion below is provided with that goal in mind.

BACKGROUND

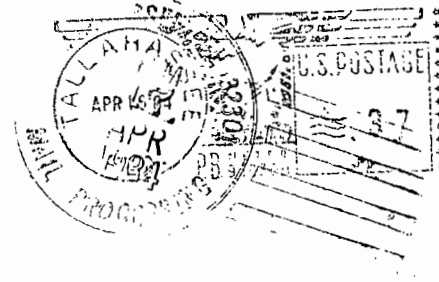
The proposed Bay County project is designed to produce steam and electrical power through the combustion of municipal solid waste and wood chips. Two O'Conner RC100 combustor/boilers, each with a capacity of 175 tons of municipal solid waste per day, will be utilized to produce high pressure, high temperature steam to power turbine-driven electrical generators. The maximum electrical generating capacity will be approximately six to ten megawatts. Electricity will be sold to Gulf Power Company or others. Design of the facility will also provide for future steam sales for manufacturing or other uses in an adjacent industrial park.

DER
APR 19 1984
BAQM

BEST AVAILABLE COPY

HOPPING BOYD GREEN & SAMS

POST OFFICE BOX 6526
TALLHASSEE, FLORIDA 32314



Mr. Bob King
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Steve Smallwood
April 16, 1984
Page 2

In developing the plans for this facility, representatives of Westinghouse and other project participants have met several times with Department staff, including Bob Kriegel and Larry Lukin. It is our perception that the Department has taken a very positive view of the project, largely because it will provide an environmentally sound solution to Bay County's solid waste management problems. Mr. Lukin has expressed recognition of the importance of a "fast-track" permitting effort for this facility and to that end suggested that permit review be handled by the Department's Northwest District office. When Westinghouse representatives met with District staff to discuss a draft air permit application, however, they were advised that the application should be filed in the Central Air Permitting Section (CAPS) of the Department's Tallahassee office. In accordance with those instructions, the air permit application was transmitted to CAPS by letter dated March 22, 1984.

PSD APPLICABILITY ISSUE

As you know, a new air pollution source that falls within one of the 28 listed "Major Facility Categories" is subject to PSD review if the potential emissions of any regulated pollutant from the source would be 100 tons or more per year. For other types of sources, potential emissions must equal or exceed 250 tons per year before PSD permitting requirements are triggered. The facility proposed by Westinghouse will not emit 250 tons or more per year of any pollutant, but the emissions of carbon monoxide from each combustor/boiler are projected to exceed 100 tons per year. Consequently, these units will be subject to PSD review only if they fall within one of the 28 "Major Facility Categories". The question of how to categorize the two proposed combustor/boilers is thus crucial in determining whether PSD review will be required in the air permitting process.

In its permit application, Westinghouse stated that the proposed facility would consist of two "Carbonaceous Fuel Boilers". This description is based upon the definitions for "Carbonaceous Fuel" and "Carbonaceous Fuel Burning Equipment" in the Department's rules. Those terms are defined at Florida Administrative Code Rule 17-2.100 as follows:

"(29) "Carbonaceous Fuel" -- Solid materials composed primarily of vegetative matter such as tree bark, wood waste, bagasse, and/or the combustible fraction of municipal wastes.

(30) "Carbonaceous Fuel Burning Equipment" -- a firebox, furnace or combustion device which burns carbonaceous and fossil fuels for the primary purpose of producing

steam or to heat other liquids or gases.
The term includes bagasse burners, bark burners, and waste wood burners, but does not include teepee or conical wood burners or incinerators." (Emphasis added.)

Westinghouse believes strongly that the "Carbonaceous Fuel Burning Equipment" definition describes the two combustor/boilers proposed for the Bay County project more accurately and more fully than any other source type mentioned in the Department's rules. Because they are not among the 28 "Major Facility Categories" listed at Florida Administrative Code Rule 17-2.500, Table 500-1, carbonaceous fuel boilers are not subject to PSD review unless they will have the potential to emit 250 tons or more of any pollutant. Because the proposed Bay County facility will not reach this threshold, the information requirements relating solely to PSD review were not addressed in the Westinghouse application.

We have been informed by Bob King of the Department's Bureau of Air Quality Management that after preliminary review of the Westinghouse permit application, he believes that the proposed facility should be categorized as an "incinerator". Because "Municipal incinerators capable of charging more than 250 tons of refuse per day" are one of the "Major Facility Categories" listed in Table 500-1, Mr. King has advised that the proposed facility is subject to PSD review, and thus that the permit application filed by Westinghouse appears to be incomplete.

After review of the applicable rules and regulations, and consideration of previous agency determinations relevant to this question, we remain convinced that the proposed facility is not subject to PSD permitting requirements. As discussed below, the facts of this case support the non-applicability of PSD review for two reasons: (1) the proposed combustor/boilers are carbonaceous fuel burning equipment; and (2) the environmental impacts of the facility will be minimized whether or not PSD review is required.

1. The Proposed Combustor/Boilers are "Carbonaceous Fuel Burning Equipment", NOT "Incinerators".

Bob King has indicated that his categorization of the proposed facility as a municipal incinerator is based upon two determinations in which the U.S. Environmental Protection Agency (EPA) indicated that federal New Source Performance Standards (NSPS) for incinerators may apply to resource recovery facilities that generate steam by burning municipal solid waste.

Steve Smallwood
April 16, 1984
Page 4

We have reviewed the summaries of these two determinations (Code No. D-49 and D-90) provided by Mr. King. While these summaries do indicate that a municipal solid-waste-fired steam generating facility may be subject to the NSPS for incinerators (40 CFR Part 60, Subpart E), we have not yet obtained copies of the EPA documents summarized. Based on the summaries, we do not believe these determinations to be dispositive of the question of whether PSD review is required for the proposed Bay County project.

We have identified another EPA determination that found the Subpart E NSPS for incinerators to be applicable to two "combined incinerator-steam generators" in Nashville, Tennessee (Code No. E-3). The summary of this determination reads as follows:

The Nashville Thermal Transfer Corp. claims that the primary purpose of the incinerators is to generate steam, not to reduce the volume of the waste. If this was true, then those units could not be considered incinerators within the meaning of 60.51(a). It is our determination that the primary purpose is to reduce waste. The incinerators and waste heat recovery boilers are separate structures. Each serves a different function. The incinerator reduces the volume of the waste and the boiler generates steam. Whether the boiler recovers waste heat from the incinerator or not does not alter these facts. (Emphasis added.)

In making this NSPS applicability determination, EPA focussed on the "primary purpose" of the facility as well as its physical design. Consideration of these factors with respect to the proposed Bay County facility demonstrates that it is not an "incinerator" for purposes of Subpart E.

The primary purpose of the Bay County facility is to generate steam and electricity. While municipal solid waste (along with wood chips) will be utilized as fuel in the combustor/boilers, it is absolutely clear that Westinghouse would not be pursuing this project if it did not involve steam and electrical generation. The economic feasibility of the project is totally dependent on the capability of the facility to produce steam and electricity for sale. Simply put, Westinghouse would not have applied for a permit to construct the facility if it

Steve Smallwood
April 16, 1984
Page 5

merely involved reduction of the volume of Bay County's municipal solid waste by incineration.

The energy production purpose of the Bay County project is evident in the design of the facility. The fuel burning equipment is an integral part of the overall combustor/boiler designed by O'Connor Combustor Corp., which is marketed as an "integrated combustor/boiler system. The rotary combustor is water-cooled by a closed-circuit, forced circulation system that itself accounts for approximately 30% of the total unit steam-generation capacity. The remaining steam generation occurs in the integrally-mated boiler portion of the facility. The unit is designed to produce high pressure, high temperature steam for electrical generation or industrial purposes.

The O'Connor design is clearly distinguishable from the traditional incinerator in that it involves no refractories or moving grates. Because the O'Connor combustor technology was first released for commercial availability in 1977, it is apparent that EPA did not contemplate this type of unit when it established the Subpart E NSPS for incinerators in 1971. In fact, the O'Connor Combustor was originally patented for use as a wood-burning steam generator, and five of the eight units now in service burn fuels other than municipal waste.

We would also point out that the categorization of the Bay County facility for NSPS-applicability purposes is not necessarily dispositive of the PSD-applicability issue. In regard to the latter, the source categories specified in the Department's rules should be controlling. Under the definition of "Carbonaceous Fuel Burning Equipment" in Florida Administrative Code Rule 17-2.100, it is the purpose of the unit that is crucial. There can be no doubt that the proposed facility is a combustion device which will burn wood-waste and the combustable fraction of municipal wastes "for the primary purpose of producing steam". The definition of "incinerator" at Florida Administrative Code Rule 17-2.100(78) provides, at best, an incomplete description of the proposed facility. As these definitions apply throughout Florida Administrative Code Chapter 17-2, and have been approved by EPA as part of the State Implementation Plan, there should be no doubt that they are controlling for purposes of source categorization under the Department's PSD rule.

We understand that previously permitted resource recovery facilities in Florida have been treated as "incinerators". None of these facilities utilized the O'Connor combustor design, however, which is distinguishable from other waterwall type furnaces by the water-tube construction of the combustion

itself. Moreover, it is our understanding that the potential emissions from the other facilities exceeded the 250 ton per year PSE threshold, thus making the question of source categorization irrelevant with respect to PSD applicability. In contrast to those other resource recovery facilities, the level of permitting review in this case is dependent upon how the proposed facility is categorized. The Department's rules leave no doubt that this proposed facility should be considered a Carbonaceous Fuel Burner, and the practical ramifications of doing otherwise provide a strong reason for implementing the rules as written.

2. The Environmental Impacts of the Proposed Facility Will Be Minimized whether or Not PSD Permitting Requirements are Imposed.

In its permit application, Westinghouse has proposed to utilize state-of-the-art electrostatic precipitators to control emissions of particulate matter from the proposed facility. The design particulate emission rate for this equipment is 0.02 gr/dscf. This is much more restrictive than the rate of 0.08 gr/dscf required under the Subpart E NSPS for incinerators. It is also consistent with the particulate emission rate of 0.03 gr/dscf imposed by the Department as Best Available Control Technology (BACT) for the recently licensed Unit No. 3 at the Pinellas County resource recovery facility, which has approximately three times the capacity of the proposed Bay County facility.

In this regard, we would also point out that the primary focus of the PSD program is on particulate matter and sulfur dioxide. The proposed Bay County facility will emit very low levels of these pollutants, with annual emission of particulate matter estimated at approximately 15 tons per year per unit and annual emissions of sulfur dioxide estimated at approximately 42 tons per year per unit. In addition, the unique design of the O'Connor combustor will result in lower excess air levels, thus minimizing nitrogen oxides emissions.

In view of the design of the Bay County facility as proposed, and considering the emission limits established as BACT for previously permitted resource recovery facilities subjected to PSD review, it is evident that the application of PSD requirements to this project is highly unlikely to affect its emissions levels. There is consequently no apparent "environmental protection" basis for requiring PSD review of the Bay County project, as its environmental impacts will be minimized regardless of whether PSD requirements are imposed.

IMPORTANCE OF "FAST-TRACK" PERMITTING

The PSD applicability issue is important to Westinghouse because it will almost certainly affect the permitting time frame for the proposed facility. If PSD review is not required, and the permit application is deemed complete as filed, the deadline for issuance or denial of the permit will be June 24, 1984. If PSD review were required, it appears unlikely that a permit decision would be forthcoming until a considerably later date. Specifically, Westinghouse would have to totally revise the permit application to address the PSD information requirements, including a BACT proposal involving consideration of alternative technologies. Consequently, a completeness determination for the application would be put off for an unknown period of time, with a corresponding delay in the start of the 90-day permitting clock.

Of even greater concern to Westinghouse is the potential that pre-application ambient monitoring data could be required in connection with PSD review. Unless existing ambient data meeting the PSD quality assurance requirements could be utilized, Westinghouse would have to collect four to 12 months of data even before filing a permit application. While we believe that the predicted impacts of the proposed facility may be less than the de minimus levels specified at Florida Administrative Code 17-2.500, Table 500-3, we have not received final assurance from the Department that the facility would qualify for this ambient monitoring exemption. In any event, it is understandable that Department review of air permits tends to be more time consuming for PSD sources than for others, in view of the more comprehensive and complicated issues that must be addressed.

Any delay in obtaining the permit has potentially adverse consequences for the Bay County project. Because the project financing must remain on hold until receipt of the permit, delay in the permitting process will extend the period of time that capital already invested will remain at risk. Other project-related developments that must remain in limbo pending receipt of the air permit include federal grants for water and sewer lines and negotiations with potential industrial users of steam. Of particular interest to the Department, delay of this facility may affect the approval process for the proposed new Bay County landfill because such delay leaves undetermined the question of whether the County will have to construct a raw landfill instead of a residual landfill. Finally, permitting delay will inevitably slow the positive momentum generated thus far for the Bay County project, thereby increasing the possibility that organized opposition might arise.

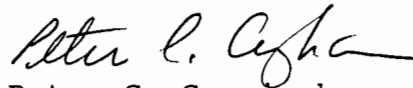
Steve Smallwood
April 16, 1984
Page 8

CONCLUSION

The Department's rules provide a strong basis for treating the proposed Bay County facility as a carbonaceous fuel burner that does not require PSD review. The environmental consequences of treating the facility in this manner will not differ from those resulting from the imposition of PSD permitting requirements. There is thus no justification for requiring PSD review for this project, with the attendant delays in the permitting process. Such delays would unquestionably place unnecessary obstacles in the path of the Bay County project, and could jeopardize the entire project.

We hope that after review of this matter you will agree that PSD review is neither required nor appropriate for the Bay County facility. Please do not hesitate to call me if you have any questions about this matter.

Sincerely,

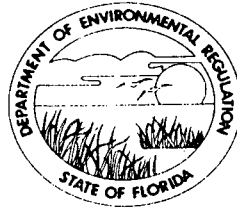

Peter C. Cunningham

PCC/gs

cc: Steve Fox
Larry Lukin
Robert Kriegel
Nancy Wright, Esquire
Steve Smallwood
Clair Fancy
Bill Thomas
Bob King
Cleve Holladay

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

April 16, 1984

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

F. S. Pollier/J. D. Phillips
Westinghouse Electric Corporation
Waste Technology Services Division
P. O. Box 10864
Pittsburgh, Pennsylvania 15236

Re: Bay County Resource Recovery Facility,
Air Construction Permits: AC 03-84703, and AC 03-84704

Dear Mr. Pollier:

The Bureau of Air Quality Management received your applications on March 26, 1984, for construction permits of two MSW-fired incinerators in Panama City, Florida. After reviewing these applications, the bureau has determined both applications to be incomplete. Before the applications can be further processed, the bureau has comments and requires additional information for each application as following:

1. According to EPA's document, if the resource recovery facility has a charging rate greater than 50 tons per day and burns solid waste, it would be subject to the incinerator NSPS. Therefore, your proposed new sources (350 tons/day) are subject to Subpart E, NSPS. Section IV of the application is applicable.
2. The proposed facility is a major facility based on the Table 500-1, Major Facility Categories, in Chapter 17-2. Therefore, the state PSD requirement applies to this facility according to FAC Rule 17-2.500(2)(d)2. Submit the necessary information and data for BACT analysis review. Also submit an air quality impact analysis to include an analysis of existing air quality, a PSD increment analysis, a National Ambient Air Quality Standards (NAAQS) analysis and an analysis of impact on soils, vegetation and visibility and growth related air quality impacts.

3. Provide all information on the turbine generators including, but not limited to, rating, manufacturer, and efficiency.
4. Will the Bay County Board of County Commissioners or the selected vendor operate this resource recovery facility?
5. Submit a vendor's guarantee that the two proposed ESPs will be capable of controlling particulate emissions to 0.02 gr/dscf corrected to 12% CO₂ when firing MSW, wood chips or both.
6. When burning wood chips in the incinerators, what is the expected resistivity (ohm/centimeter) of the fly ash?
7. What percent (by weight) of the fly ash will be less than 10 microns when burning wood chips? What percent of the fly ash will be less than 5 microns?
8. When burning wood chips, there is the possibility of a fire hazard in the ESP. What precautions will be taken to avoid such a possibility?
9. The air emission tests at Gallatin, TN indicate that NRT fuel behaves differently in the O'Connor Rotary Combustor than raw waste. Will there be any difference when burning wood chips?
10. Will each rotary combustor have the capability to be operated under automatic combustion control (ACC)?
11. Attachment 11.A. in your application refers to the baghouse failure at Gallatin, TN. The control device at Gallatin was a Apitron electrostatically-assisted fabric filter. Submit your data that indicated the baghouse was at fault, not the ESP.
12. Cooper Engineers tested two 165 TPD units (in Japan) with an air pollution control system consisting of a TESI dry scrubber, dry venturi and baghouse. The

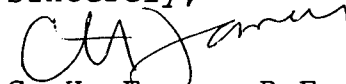
F. S. Pollier/J. D. Phillips
Page Three
April 16, 1984

preliminary test results indicate: 99% plus reduction in particulate, HCl gases, and SO₂ emissions; 70% plus reduction in HF gases; 30% reduction in mercury. Submit economic, energy, and environmental impact analysis for the comparison between this system and the control system you proposed on the application.

13. Will your proposed sources burn any sludge from any wastewater treatment plant?
14. Submit fuel sample analysis reports on the proposed fuels: MSW and wood chips. The SO₂ and Pb emissions listed in your application seem much lower than average.
15. Submit revised applications to replace the current applications, the revised ones should include all corrections and additional information required by items 1 thru 14 on this letter.

When the revised applications are received, we will resume processing your applications. If you have any questions on the information we request, please write me at the above address or call Bob King, Review Engineer, at (904)488-1344. Cleve Holladay should be called on any question related to modeling.

Sincerely,



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

CHF/BK/s

cc: Jack Preece
Peter Cunningham
Alan Richter
Cleve Holladay

No. 0158265

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

PS Form 3800, Apr. 1976

SENT TO	
F. S. Pollier	
STREET AND NO.	
P.O., STATE AND ZIP CODE	
POSTAGE	
CERTIFIED FEE	\$
SPECIAL DELIVERY	¢
RESTRICTED DELIVERY	¢
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
SHOW TO WHOM AND DATE DELIVERED	¢
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	\$
POSTMARK OR DATE	
4/18/84	

PS Form 3811, Jan. 1978

1. SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

Show to whom and date delivered..... ¢

Show to whom, date and address of delivery..... ¢

RESTRICTED DELIVERY
Show to whom and date delivered..... ¢

RESTRICTED DELIVERY
Show to whom, date and address of delivery. \$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
F. S. Pollier
Westinghouse Electric Corp.
P. O. Box 10864
Pittsburgh, Penn. 15236

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0158265	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

4. DATE OF DELIVERY

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

USPS CLERK'S INITIALS

APR 23 1984
PITTSBURGH, PENNSYLVANIA

Westinghouse Electric Corporation

Mellon Bank N.A.
Pittsburgh, Pennsylvania

Pay To Order Of

Date

Amount of Check

FL DEPT OF ENVIRONMENTAL REG
2600 BLAIRSTONE RD
TALLAHASSEE FL 32301

03/22/84

\$ ****2,000.00

Headquarters Disbursing Account - 9400

D C Zorb
VICE PRESIDENT & TREASURER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 76020

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Westinghouse Electric Corporation Date March, 26, 1984

Address Box 10864, Pittsburgh, PA 15236-0884 Dollars \$ 2,000.00

Applicant Name & Address same as above

Source of Revenue _____

Revenue Code 001001 Application Number AC 03-84703, AC 03-84704

By Patricia G Adams

BEST AVAILABLE COPY

To: BILL THOMAS
From: JACK PREECE

MARCH 16 1984

DER
MAR 20 1984
BAQM

MR MILTON E. KIRKPATRICK AND MR JOHN D PHILLIPS
(CARDS ATTACHED) MET WITH TOM MOODY AND
I TODAY AND REQUESTED OUR PRELIMINARY
REVIEW OF AN INCOMPLETE APPLICATION (2 COPIES
ATTACHED)

I ASSURED THEM THAT THIS WOULD BE
PROCESSED BY CAPS. I DID AGREE TO
SEND YOU THIS UNOFFICIAL APPLICATION AND I
REQUEST YOU TO CALL ONE OF THESE GENTLEMEN
AS SOON AS POSSIBLE TO HELP THEM PUT
THE FINISHING TOUCHES TO THEIR SUBMITTAL.

I TOLD THEM THE FEE WOULD BE
 $2 \times \$1,000 = \$2,000.$

I QUESTIONED THE APPLICABILITY OF N&PS
SUBPART E IS ~~IS~~ CARBONACEOUS BURNER
WE CORRECTED ITEMS IN RED PAGES 4, 5

I DIDN'T TRY TO OUT GUESS YOU ON ANY OTHER
COMPLETENESS ITEMS.

KEEP US INFORMED WHEN THEY MAKE IT
OFFICIAL.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

RECEIVED NO.	
RECEIVED DATE	
1. TO: (NAME, OFFICE, LOCATION)	INITIAL
BILL THOMAS	DATE
2.	INITIAL
BUR OF AIR QUALITY MANAGEMENT	DATE
DER	
3.	INITIAL
TALLAHASSEE	DATE
4.	INITIAL
	DATE
REMARKS:	INFORMATION
	REVIEW ACTION
	REVIEW DATE
	INITIAL FORWARD
	DISPOSITION
	REVIEW RESPONSE
	PREPARE RESPONSE
	FORN RESPONSIBLE
	FORN FORN RESPONSIBLE
	REF DISCUSS
	SEE ATTACHMENT
	PROCESSED BY DATE
	INITIAL FORWARD
	DISPATCH
	CONCURRENCE
	FOR PROCESSING
	INITIAL REVIEW
	FROM:
	PHONE:

Engineer
Bay County Waste to Energy Project
Waste Technology Services Division

John D Phillips

Project Advisor
Bay County Waste to Energy Project
Waste Technology Services Division

Milton E Kirkpatrick

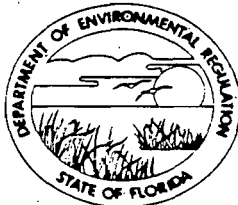
Westinghouse Electric Corporation
PO Box 10864
Pittsburgh PA 15236
(412) 892-5600 Ext 6743

Westinghouse Electric Corporation
PO Box 10864
Pittsburgh PA 15236
(412) 892-5600



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



1st
DRAFT

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Resource Recovery Facility comprising*

SOURCE TYPE: 2 Carbonaceous Fuel Boilers fired New¹ [] Existing¹
Primarily by Municipal Solid Waste

APPLICATION TYPE: Construction [] Operation [] Modification

COMPANY NAME: _____ COUNTY: Bay

Identify the specific emission point source(s) addressed in this application (i.e. Lime
Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) 2 MSW-fired boilers with
Electrostatic Precipitators

SOURCE LOCATION: Street U.S. Highway 231 city Panama City

UTM: East _____ North _____

Latitude ____° ____' ____"N Longitude ____° ____' ____"W

APPLICANT NAME AND TITLE: _____

APPLICANT ADDRESS: _____

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of _____

I certify that the statements made in this application for a _____
permit are true, correct and complete to the best of my knowledge and belief. Further,
I agree to maintain and operate the pollution control source and pollution control
facilities in such a manner as to comply with the provision of Chapter 403, Florida
Statutes, and all the rules and regulations of the department and revisions thereof. I
also understand that a permit, if granted by the department, will be non-transferable
and I will promptly notify the department upon sale or legal transfer of the permitted
establishment.

*Attach letter of authorization

Signed: _____

Name and Title (Please Type)

Date: _____ Telephone No. _____

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have
been designed/examined by me and found to be in conformity with modern engineering
principles applicable to the treatment and disposal of pollutants characterized in the
permit application. There is reasonable assurance, in my professional judgment, that

See Florida Administrative Code Rule 17-2.100(57) and (104)

DER Form 17-1.202(1)

Effective October 31, 1982

Page 1 of 12

* See definitions at 17-2.100(28) and (29), F.A.C.

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed _____

Name (Please Type)

Company Name (Please Type)

Mailing Address (Please Type)

Florida Registration No. _____ Date: _____ Telephone No. _____

SECTION II: GENERAL PROJECT INFORMATION

- A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment II.A.

- B. Schedule of project covered in this application (Construction Permit Application Only)
Start of Construction 4th Quarter 1984 Completion of Construction 4th Quarter 1986
- C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Preliminary engineering estimates for two (2) electrostatic precipitators
are \$1,100,000. This figure includes the cost of precipitators, transformer-
rectifier units, heated-insulated ash hoppers, and controls.

- D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

None

G. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr 8760 ; if seasonal, describe: _____

This facility is expected to be in continuous operation except for maintenance
outages. Full capacity of 350 tons per day of MSW will not normally be realized
except in the summer vacation season. Wood chips will be burned as supplemental
fuel.

F. If this is a new source or major modification, answer the following questions.
(Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
a. If yes, has "offset" been applied? _____
b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
c. If yes, list non-attainment pollutants. _____

2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. No Yes

3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. No Yes

4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? No Yes

5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? No

a. If yes, for what pollutants? _____

b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: N/A

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 29166.6 lbs/hr MSW and/or Wood Chips

2. Product Weight (lbs/hr): 78,000 lbs/hr Steam

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

For each of the two incinerator-boilers/stacks:

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual* T/yr			lbs/xx hr	T/yr	
Particulate	3.64	14.986	30% Opacity 0.2 lb/MMBtu	13.1	255	1049.9	
CO	30.125	248.06 124.03	per 17-2.600 (10)(b)2.b.	-	30.125 (1)	248.06 124.03	124.03
NO _x	16	67.21	-	-	16	67.21	
SO ₂	10	42.16	-	-	10	42.16	
HC-(non-methane)	1.7	7.3	-	-	1.7	7.3	
Lead	0.0227	187 lb/Yr	-	-	0.0227	187 lb/Yr	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* Based on 94% Capacity factor.

J. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Electrostatic Precipitator	Particulate/Lead	Approximately 99%		Cooper & Clark Table 5-11

E. Fuels For each of the two units:

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Municipal Solid Waste	11458.3	14583.3	65.5
Wood Chip		Approx. 8000	
Natural Gas	Will be used only for startup and shutdown	60 MMCF/Hr.	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis: For Standard MSW

Percent Sulfur: 0.16 Percent Ash: 27.58 (typical)
 Density: N/A lbs/gal Typical Percent Nitrogen: None
 Heat Capacity: 4500 BTU/lb N/A BTU/gal

Other Fuel Contaminants (which may cause air pollution): Primary fuel will be type III
municipal solid waste. Small quantities of lead will be present. No hazardous wastes
will be accepted for burning.

F. If applicable, indicate the percent of fuel used for space heating. Not applicable.

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Bottom ash and fly ash to be co-mingled and transported to Bay County Landfill
All liquid wastes (cooling tower blowdown, boiler blowdown, ash quench water
overflow, excess cooling water, sanitary waste, plant washdown water) will be
pretreated and discharged through boiler quench sanitary sewers to the Bay
County sewage treatment plant.

4. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 2 stacks each 125 ft. Stack Diameter: 4 ft.
 Gas Flow Rate: 29,246 ACFM 15,245 DSCFM Gas Exit Temperature: 400 °F.
 Water Vapor Content: 20 % Velocity: 2500 FPM ~~XPSX~~

SECTION IV: INCINERATOR INFORMATION - Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

ESP

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY N/A

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height:

ft.

b. Diameter:

ft.

c. Flow Rate:

ACFM

d. Temperature:

°F.

e. Velocity:

FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION N/A

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? Yes No
- b. Was instrumentation calibrated in accordance with Department procedures?
 Yes No Unknown

B. Meteorological Data Used for Air Quality Modeling

- 1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
- 2. Surface data obtained from (location) _____
- 3. Upper air (mixing height) data obtained from (location) _____
- 4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

- 1. _____ Modified? If yes, attach description.
- 2. _____ Modified? If yes, attach description.
- 3. _____ Modified? If yes, attach description.
- 4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

- F. Attach all other information supportive to the PSD review.
- G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.
- H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ATTACHMENT II.A.

This project involves the construction of a resource recovery facility that will generate steam-electric power by burning the combustible fraction of municipal solid waste from Bay County. The project represents the Bay County Commission's response to solid waste management planning for the future. The facility will consist of two (2) O'Connor RC 100 combustor units with provision for future addition of a third unit. Initial capacity of the facility will be 350 tons per day of municipal solid waste. Wood chips will be available as a supplemental fuel to maximize plant capacity factor and revenues. Steam produced in the two incinerator-boilers will be used to produce electrical energy by turbine generators, which will be sold to Gulf Power Company. Design of the facility will provide for future steam sales for manufacturing or other uses in the adjacent industrial park.

Electrostatic precipitators are proposed for control of particulate emissions from the incinerator-boilers. This choice is based upon successful operating experience with this control technology in resource recovery facilities utilizing waterwall boilers for the incineration of municipal solid waste in Nashville, Tennessee; Saugus, Massachusetts, Hampton, Virginia; and Pinellas County, Florida. The design criteria for particulate emissions from the precipitators will be 0.02 grains per standard cubic foot, corrected to 12% CO₂. This represents a particulate removal efficiency of approximately 99%.

The use of baghouse technology has been rejected for this project in view of the baghouse failure at Gallatin, Tennessee and the lack of experience with baghouses on existing municipal solid waste incinerator-boilers. The early failure involving the use of a wet scrubber at the Nashville facility, and the lack of successful operating experience on waterwall boilers equipped with dry scrubbers in the U.S.A., form the basis of the decision not to utilize scrubber technology for this project.

As proposed, this project will result in full compliance with all applicable requirements of Florida Administrative Code Chapter 17-2.

**BASIC DATA
RESOURCE RECOVERY PLANT
BAY COUNTY, FLORIDA**

Introduction

This document presents design criteria on the proposed Bay County project. Plant capacity will be 350 tons per day of municipal solid waste. Data from scales at the Majette Tower Landfill indicate a maximum of 350 TPD, a minimum of 250 TPD, and an annual 100,000 tons of MSW. Supplemental wood chip fuel will be available to maximize plant capacity and revenues. The plant will be designed with two O'Connor RC 100 Combustor units with provision for future addition of one additional unit. Energy produced by turbine generators will be sold to Gulf Power Company. Future steam sales will be provided for in plant design.

Site

The plant site will be in an Industrial Park approximately eight miles from the center of Panama City on U.S. Highway 231. Gulf Power has a 115 kV line adjacent to the site.

Architectural and Civil

The plant will be designed to present an aesthetically attractive grouping of buildings and equipment. MSW is to be weighed on automatic scales and tipped on a reinforced concrete slab in a 140' x 260' rigid frame building. Reclaiming of waste will be with a rubber tired front end loader to two (2) four feet (4') wide pan conveyors. Each conveyor is 90 feet long and transfers material to a second conveyor which terminates at the hopper of each combustor train. Floor storage in the center of

the building, away from all walls, will accommodate over 1000 tons of MSW and still leave room for truck traffic. An additional reclaiming with a knuckle boom loader will be provided in the center of the building. The building will be designed for access by 18 wheel semi-trailers now in service from the two transfer stations in Panama City. Provision for individuals in small vehicles is to be provided. Elevation is to be compatible with conveyor runs to the power train and power train elevation. Center line of the conveyors to the combustor hoppers is 35 feet. A building extension over the conveyors is to be provided, along with walkways by each conveyor. A gravity roof ventilator is to be provided. In addition, combustion air is to be ducted from the building extension to the forced draft fans.

No additional equipment is proposed for acceptance of wood chips. They will be stored as is MSW and mixed by the operator in the storage building.

All equipment foundations will be on piling. Designers will provide soil borings as required.

An office building will be designed for four day personnel, a conference room, and a change room for plant operating and maintenance personnel. Visual access from the office building to the scale is required. Parking is required. Roads will be provided. Property is to be fenced with chain link galvanized fencing.

A building to enclose the power train is to match the refuse storage building.

Sewer and water to the site are to be provided by others.

Chute-to-Stack

The power train from the hopper on the combustor to the stack will be designed by Westinghouse. It is intended to have a left hand and a right hand boiler with soot blowers offset and in the center between the units. The stack will be four feet in diameter, self supporting, with a ladder to an E.P.A. test platform. Copper bearing steel is to be used to minimize corrosion. Stack height is to be a nominal 125 feet. No taper or high velocity nozzles are to be on the stacks.

Mechanical

Equipment design for plant is to include:

Turbine Generators

Condensers - with Appurtenances

Cooling Tower

Circulating Water Pumps

Boiler Feed Pumps

Deaerating Heater and Storage Tank

Condenser Water Pumps

Switchgear

Ash Hopper - Boiler

Ash Hopper - Siftings

Ash Conveyors

Instrument and Control System

Air Compressor(s)

Boiler Blowdown Flash Tank

Support Facilities for air emission equipment. It is

intended to use an electrostatic precipitator for control of particulate emissions.

Boiler water treatment facilities are to be designed for 100% makeup.

All support facilities for the power plant are to be provided. Items such as P.A. systems, CCTV, sump pumps and any item not listed but required in the proper operation of the plant is to be a part of this scope.

Pretreatment of quench water prior to discharge to sewer is required.

Air compressors should be designed for air puff sootblowers. This is an interface item with Westinghouse.

Electrical

Maximum energy efficiency in the plant is to be provided. Energy efficient electric motors are to be designed into the plant. Lighting is to be high pressure sodium vapor.

The four fan drive motors are to be AFAC (adjustable frequency/alternating current).

Interface with Gulf Power and Southern Services will be required. Possible subcontract to Southern Services for generator terminals to switchyard is pending.

Maximum usage of cable trays for all electrical and instrument lines is required. Minimum conduit.

Southern Services will design 115/12 kV substation on a one acre site between the plant and their 115 kV line. Their substation will be sized for future growth in the Industrial Park.

Particulate Emissions
(Controlled)

Bay County, Florida
Resource Recovery Plant

Particulate Emission Factors
Kure City, Japan
Electrostatic Precipitator

.5#/Ton MSW Input

$$\frac{.5}{2} \times \frac{350}{24} = 3.64 \text{ \#/Hr/Stack}$$

$$3.64 \times 24 \times 365 \times .94 = 29,973 \text{ \#/Yr/Stack}$$

$$\frac{29,973}{2000} = 14.986 \text{ Tons/Yr/Stack}$$

Ref.: Table 5-11

Cooper & Clark Report
Kure City, Japan
1981

TABLE 5-11
PARTICULATE EMISSION FACTORS AND ESP EFFICIENCY

Feed Rate		Unabated Emissions		Abated Emissions		ESP Efficiency	
% Design	Tm/PH	EPA BAAQMD Lbs./T	Other Calif. Lbs./T	EPA BAAQMD Lbs./T	Other Calif. Lbs./T.	EPA BAAQMD %	Other Calif. %
88	5.5	37.85	*	0.307	0.473	99.19	98.83
89	5.56	28.29	30.25	--	--	--	--
101	6.33	25.99	*	0.405	0.564	98.44	97.90
109	6.8	32.75	33.82	--	--	--	--
Average of all tests		31.22	32.04	0.356	0.518	98.82	98.35
U.S. EPA Method 5-8 Average		30.52	32.04	0.356	0.518		
Average Lbs./10 ⁶ Btu of all tests		5.58	5.72	0.064	0.092		
U.S. EPA Method 5-8 Lbs./10 ⁶ Btu Average		5.45	5.72	0.064	0.092		

	lb/ton	lb/hr
PM	42.5	620
NO _x	2.2	32.1
SO ₂	2.8	40.8
NMHC	0.232	3.4
CO	4.5	65.6
Hg	0.00171	0.025
Pb	0.274	4.0
Bz	<0.000048	<0.0007



CO Emissions

Bay County, Florida
Resource Recovery Plant

CO per million Btu input =

$$\begin{array}{rcll} \text{Emission Factor} & & \text{Tons/Day} & \text{10}^6 \text{ BTU} = \\ .459 & \times & 350 & \times 9 & = & \begin{array}{l} 1446 \text{ \#/Day} \\ 60.25 \text{ \#/Hr.} \\ 30.125 \text{ \#/Hr/Stack} \end{array} \end{array}$$

$$\begin{array}{rcll} \text{\#/Day} & & \text{Days} & \text{Plant Availability} & & \\ 1446 & \times & 365 & \times & .94 & = & 248.06 \text{ tons/year} \\ & & 2000 & & & & \end{array}$$

Reference: Table 5-37
Cooper Engineers Report
Gallatin, Tennessee
December 1983

Assumptions: Typical MSW - 4500 Btu/#
Plant Availability - 94%

TABLE 5-37

CO EMISSIONS FACTORS USING EPA F-FACTOR
CALCULATED FROM CEM DATA TAKEN DURING SAMPLING

$$E = Cd Fd \left(\frac{20.9}{20.9 - \%O_2} \right)$$

E = Pollutant Emission Rate, lb/10⁶ Btu

Cd = Pollutant Concentration (dry) lb/scf
= ppm CO x 0.7276x10⁻⁷

% O₂ = 7% O₂ dry

Date	CO Conc. at <u>7% O₂</u>	Cd x 10 ⁻⁷ (lb/scf)	Fd (scf/10 ⁶ Btu)	E (lb/10 ⁶ Btu)
2/7/83 1050 to 1437	254	184.81	8,875	0.247
2/8/83 0855 to 1150	928	675.21	9,019	0.916
2/8/83 1320 to 1500	150	109.14	9,973	0.164
2/8/83 1647 to 1825	222	161.53	9,168	0.223
2/9/83 0940 to 1215	482	350.70	7,803	0.411
2/11/83 1552 to 1735	650	472.94	11,395	0.810
AVERAGE	448	325.96	9,372	0.459

Lead Emissions

Bay County, Florida
Resource Recovery Plant

Lead as Wt. % of Particulate

Kure City, Japan	0.754%
Gallatin, Tenn.	0.626%

Particulate

$$\frac{3.64 \text{ \#/Hr/Stack} \times .626}{100} = 0.227 \text{ \#/Hr/Stack}$$

$$\frac{14.986 \text{ Tns/Yr} \times .626}{100} = 0.938 \text{ Tons/Yr/Stack}$$

$$.0938 \times 2000 = 187 \text{ \#/Yr/Stack}$$

Particulate - Unabated

Bay County, Florida
Resource Recovery Plant

Particulate - Potential Emission Uncontrolled

Particulate Emission Factors
Kure City, Japan
ESP

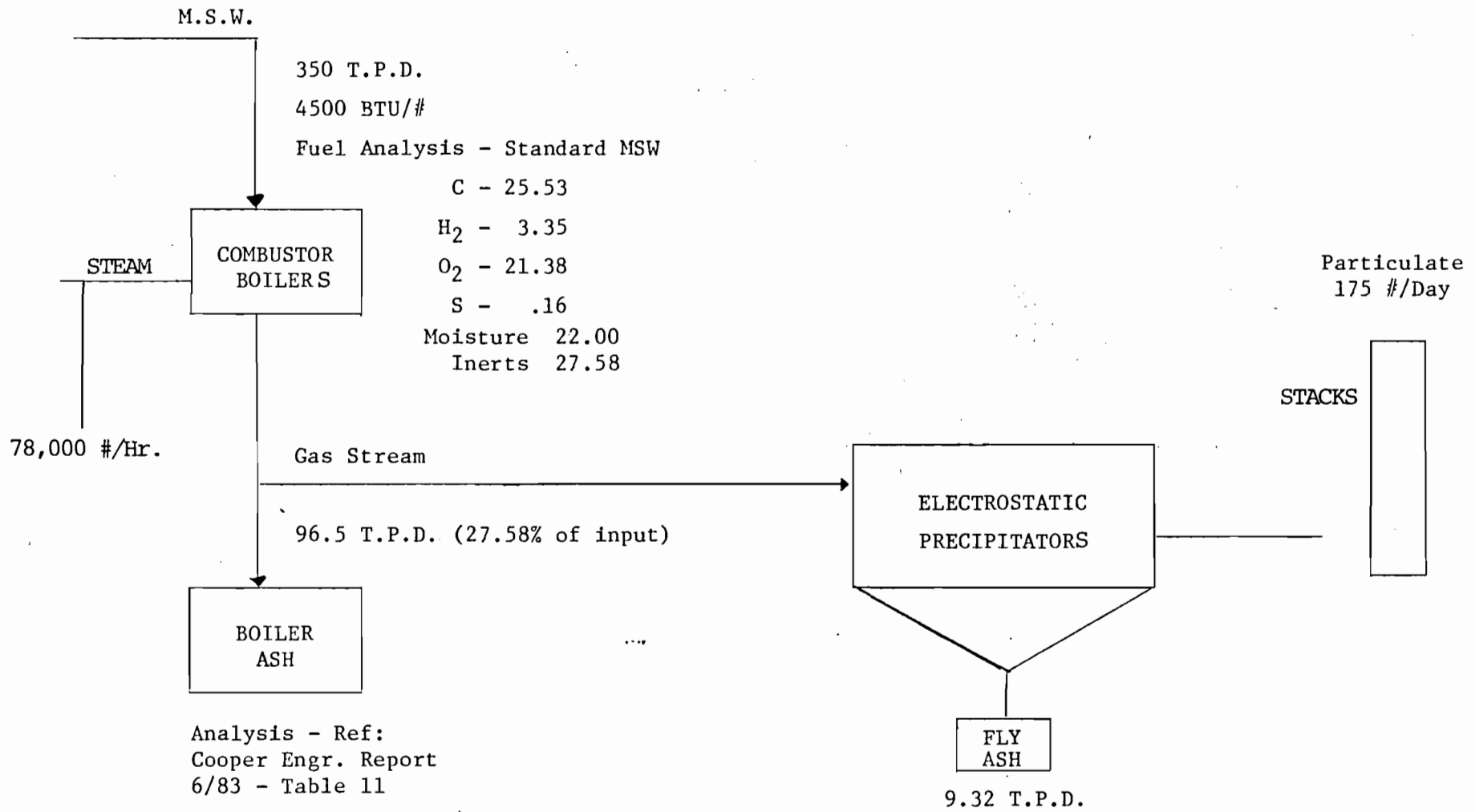
35#/Ton MSW input

$$\frac{35 \times 350}{2 \times 24} = 255 \text{ \#/Hr/Stack}$$

$$255 \times 24 \times 365 \times .94 = 2,099,772 \text{ \#/yr/stack}$$

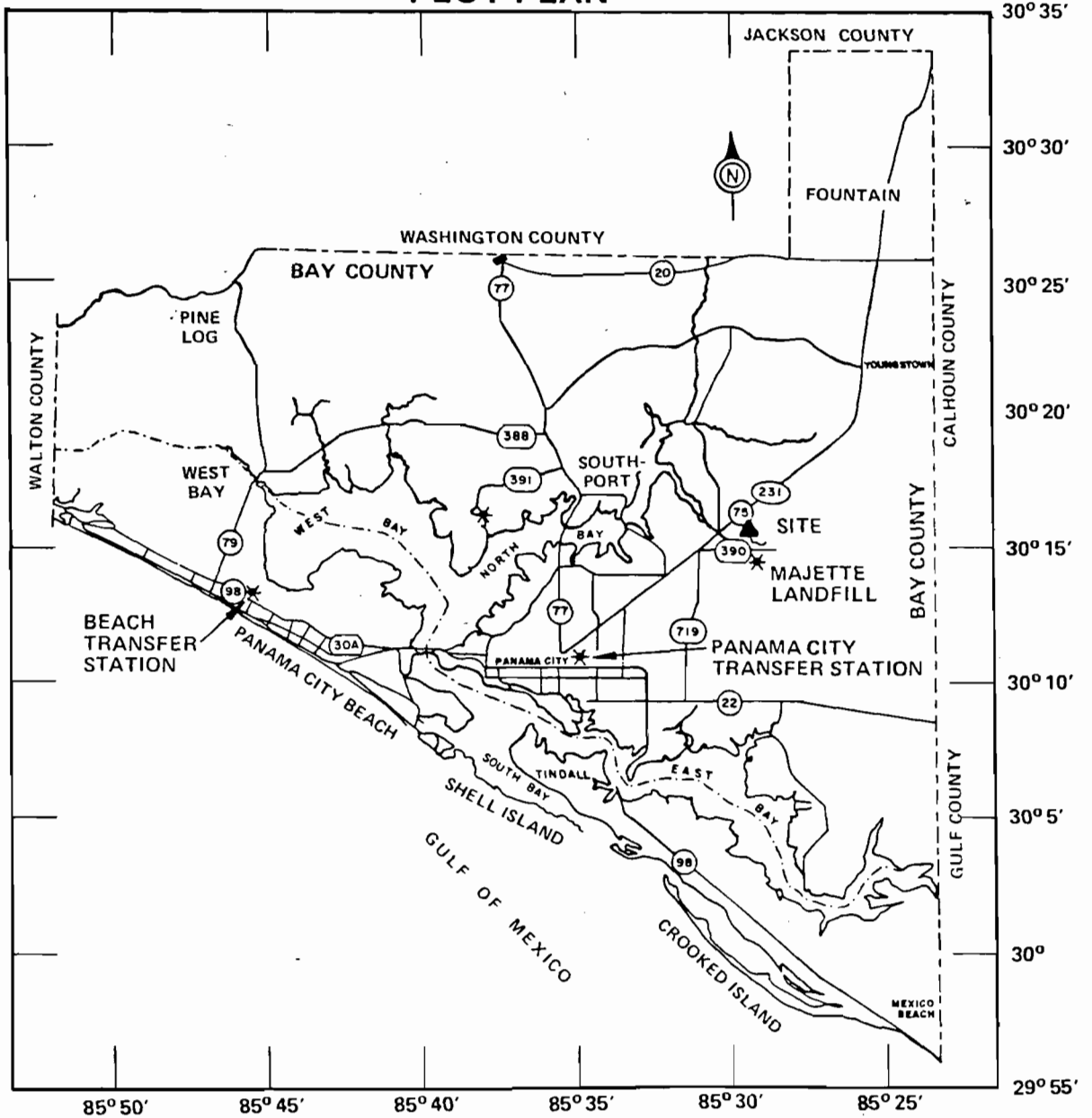
$$\frac{2,099,772}{2000} = 1049.9 \text{ tons/yr/stack}$$

FLOW DIAGRAM

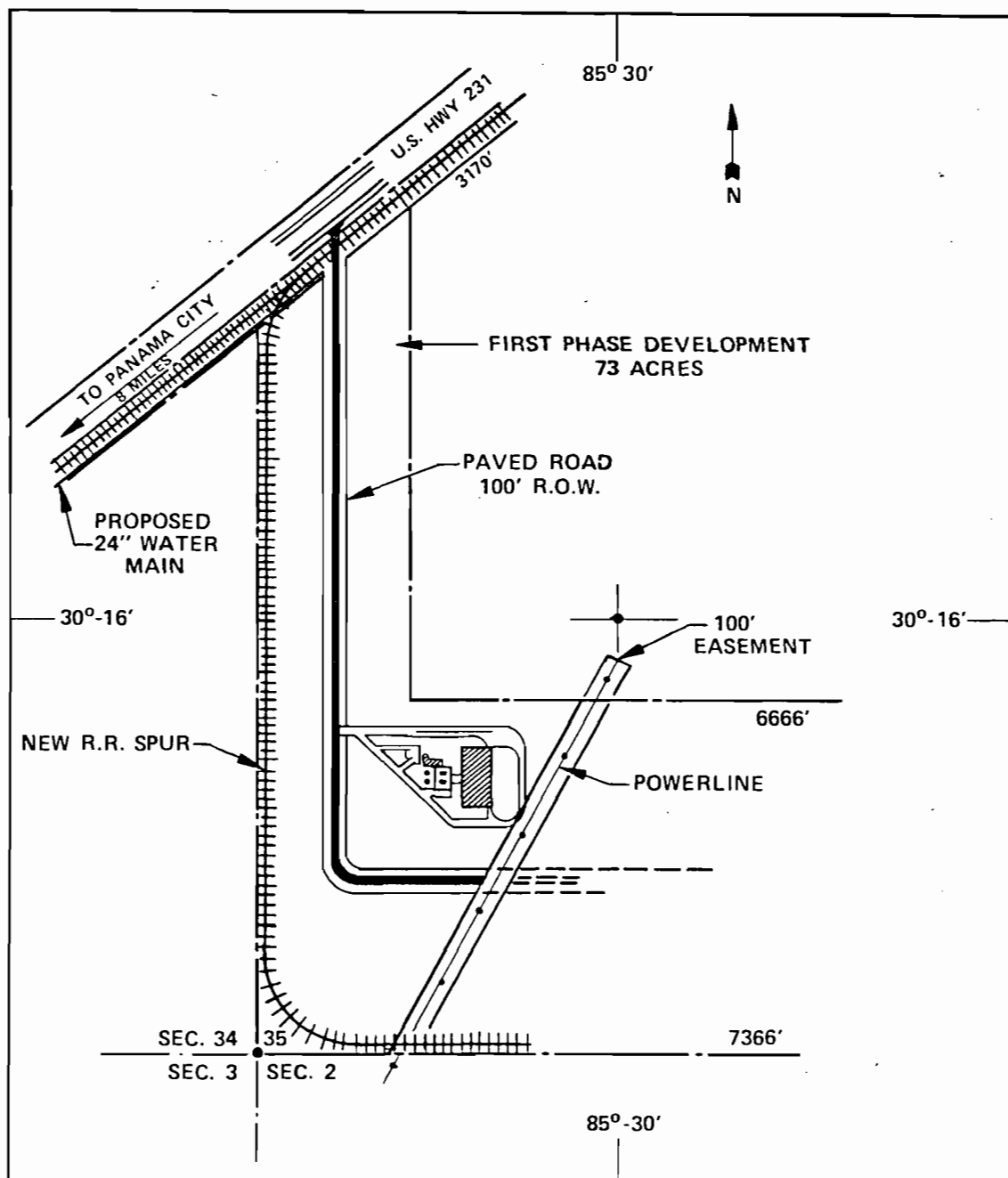




Westinghouse Bay County Waste to Energy Project PLOT PLAN

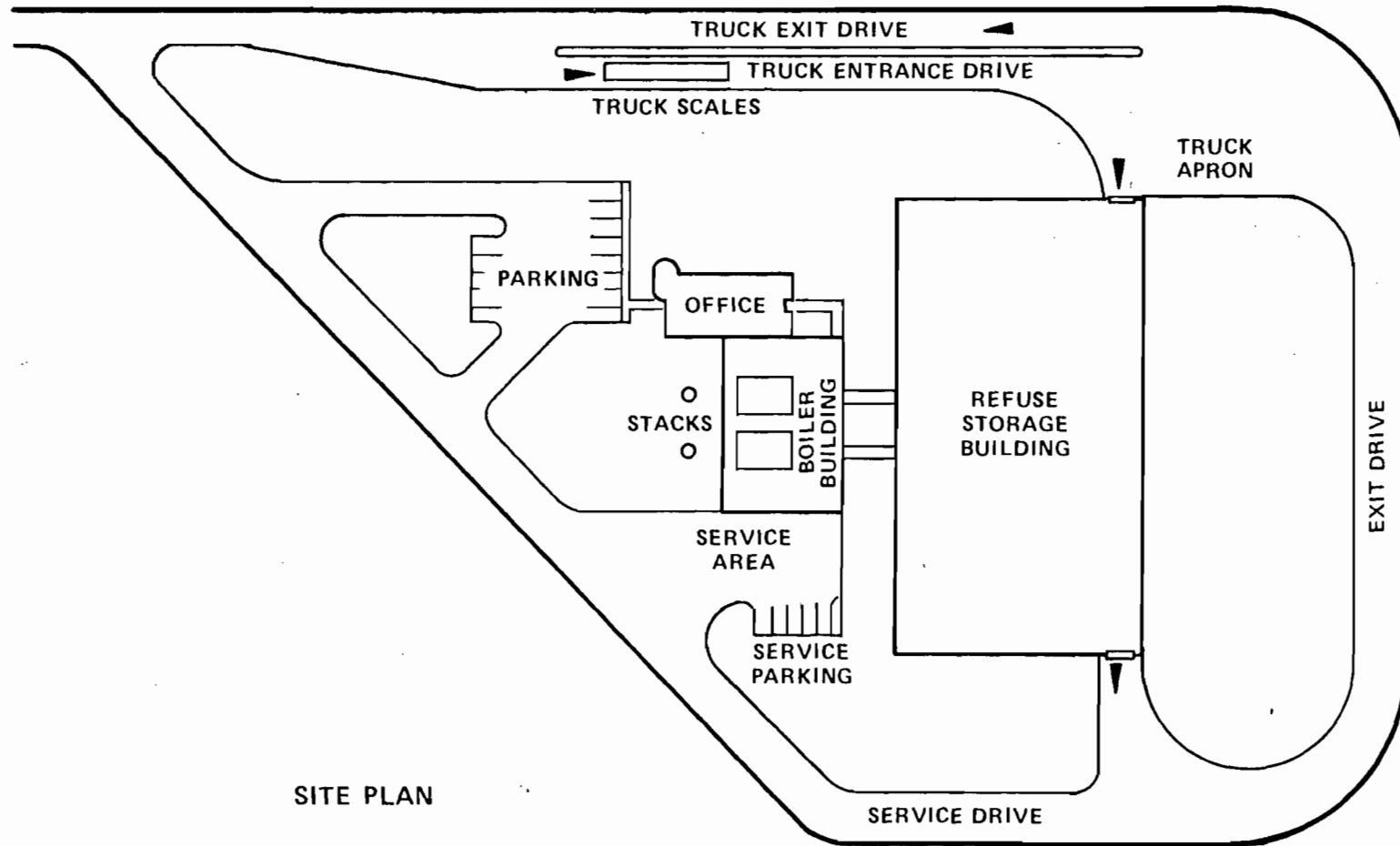



Westinghouse
Bay County Waste to Energy Project
SITE PLAN



766245-2A

(W) Westinghouse
Bay County Waste to Energy Project
**MUNICIPAL SOLID WASTE
FACILITIES**



SITE PLAN

766245-3A

Fred S Pollier

Manager
Bay County Waste to Energy Project
Waste Technology Services Division



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(412) 892-5600

John D Phillips

Engineer
Bay County Waste to Energy Project
Waste Technology Services Division




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Project Advisor
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MILTON E. KIRKPATRICK, P.E. Waste To Energy
Executive Engineer OFFICE (615) 296-7641



January 13, 1984

MEMO TO: Jim Bohlig

COPY TO: Ray Harry - Gulf Power
George Layman - Gulf Power
George Levin
Paul Miskimin
John Phillips

FROM: Milton Kirkpatrick

SUBJECT: Bay County Florida Environmental

The county is now weighing garbage at the Majette Landfill, and has accumulated data since April, 1983. Maximum tonnage has been 350 tons per day, minimum 250, with 100,000 tons per year indicated at this time.

Data from the Cooper Engineers air emissions test at Gallatin provide some emission factors in #/ton of various components.

If we design for .02 grains outlet, Gallatin being about .03, the particulate factor would be 0.5 #/ton. Annualized this is 50,000 pounds.

→ KURE CITY .356 - .518

The following factors for CO, NOX, and SO₂ are from the same report:

			<u>K.C.</u>
CO	4.5 #/ton	450,000 #/yr	5.08
NOX	2.2 #/ton	220,000 #/yr	1.99
SO ₂	2.8 #/ton (Gallatin)	280,000 #/yr	✓
	<u>1.38 #/ton (Kure City)</u>	138,000 #/yr	
	CHECK ✓		

TABLE 5-23

K.C. REPORT

The SO₂ emissions at Gallatin are high for a municipal solid waste burning plant. The analyses of MSW indicate an average of 1.21% sulfur in the ultimate analysis. This is high by a factor of four to six over other analyses of MSW. For example, the report on Kure City, Japan shows 0.20% sulfur, and analyses of 10 cities, attached to this memo, show sulfur in the range of 0.10 to 0.35 percent.

Non-methane hydrocarbons averaged .232 #/ton, postulated to 23,200 #/yr.

This summarizes data from two complete reports, both of which are available.

MEK

attachment

BEST AVAILABLE COPY

California Air Pollution Control Facility Resource Handbook
CALIFORNIA AIR RESOURCES
NOV 15 1983

COPY IN O'CONNOR OFFICES WASHDC

Table 7

Concentrations of Nitrogen, Sulfur, and Chlorine in Refuse

Location of Wasteshed	Components, Percent (by dry weight)		
	Nitrogen	Sulfur	Chlorine
California Cities			
Richmond (372)	0.83	0.16	0.46
San Francisco (30)	NR	0.21	0.73
Berkeley (29)	0.74	0.21	0.74
San Diego (37)	0.69	0.21	0.79
Other Locations			
Ames, Iowa (385)	0.73	0.35	0.43
Braintree, Mass. (374)	0.34	0.35	NR
Tampa, Fla. (384)	NR	0.3	0.3
Tulsa, Okla. (384)	NR	0.1	0.3
Harrisburg, PA (384)	NR	0.2	0.7
Johnstown, PA (384)	NR	0.1	0.4

NR = not reported

To Bob King
D.E.R. Tallahassee
2/28/84

Bob:

As promised in our discussions on 2/22/84 enclosed is some literature on the O'Connor Combustion technology. The O'Connor Combustor Corp. is now wholly owned by Westinghouse. The Bay County Fla. project will be the first Westinghouse "waste-to-energy" project and will utilize the O'Connor equipment. We will keep you informed as the project progresses.

John Phillips
PROJECT ENGINEER
BA-1 COUNTY

DER
MAR 05 1984
BAQM

Milton Elder Kirkpatrick Jr.
3713 West End Avenue · Nashville, Tennessee 37205

THIS IS TO CERTIFY THAT THE ENGINEERING FEATURES OF THIS POLLUTION CONTROL PROJECT HAVE BEEN DESIGNED/EXAMINED BY ME AND FOUND TO BE IN CONFORMITY WITH MODERN ENGINEERING PRINCIPLES APPLICABLE TO THE TREATMENT AND DISPOSAL OF POLLUTANTS CHARACTERIZED IN THE PERMIT APPLICATION. THERE IS REASONABLE ASSURANCE, IN MY PROFESSIONAL JUDGEMENT, THAT THE POLLUTION CONTROL FACILITIES, WHEN PROPERLY MAINTAINED AND OPERATED, WILL DISCHARGE AN EFFLUENT THAT COMPLIES WITH ALL APPLICABLE STATUTES OF THE STATE OF FLORIDA AND THE RULES AND REGULATIONS OF THE DEPARTMENT. IT IS ALSO AGREED THAT THE UNDERSIGNED WILL FURNISH, IF AUTHORIZED BY THE OWNER, THE APPLICANT A SET OF INSTRUCTIONS FOR THE PROPER MAINTENANCE AND OPERATION OF THE POLLUTION CONTROL FACILITIES AND, IF APPLICABLE, POLLUTION SOURCES.



MILTON E. KIRKPATRICK
WESTINGHOUSE ELECTRIC COMPANY
P.O. BOX 10864
PITTSBURGH PA 15236
412 892 5600

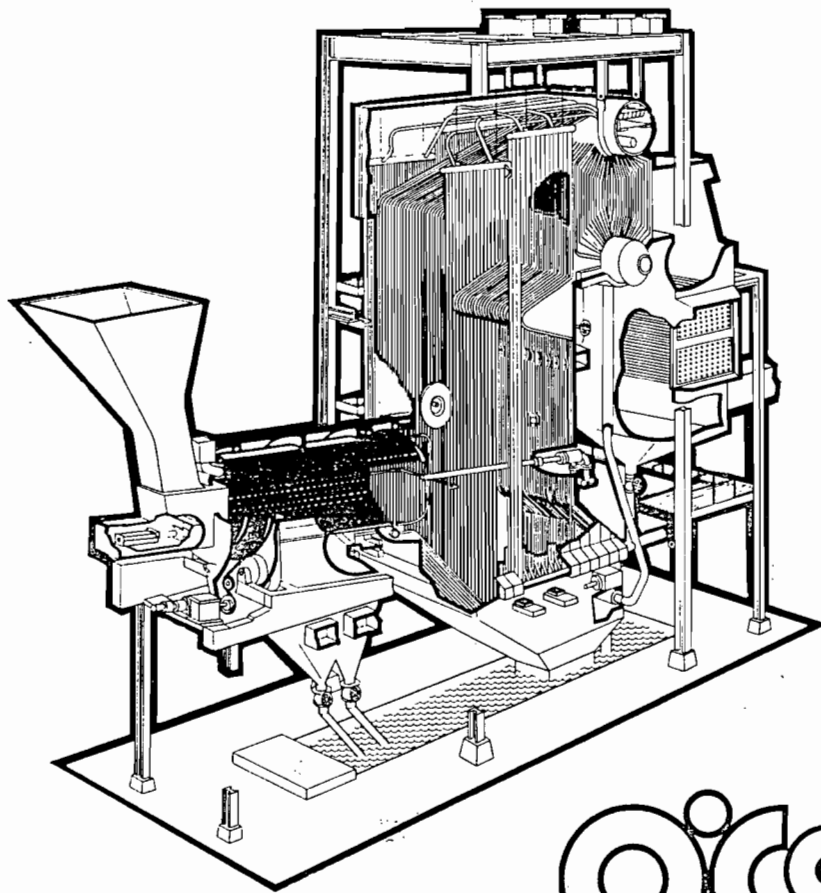
TENN # 10268
LOUISIANA # 1431
ALABAMA # 1901
MARYLAND # 13040

MEK

Efficient Conversion of Waste to Energy

O'Connor Water-Cooled Rotary Combustor

THE PROVEN SYSTEM



O'Connor
COMBUSTOR CORP.

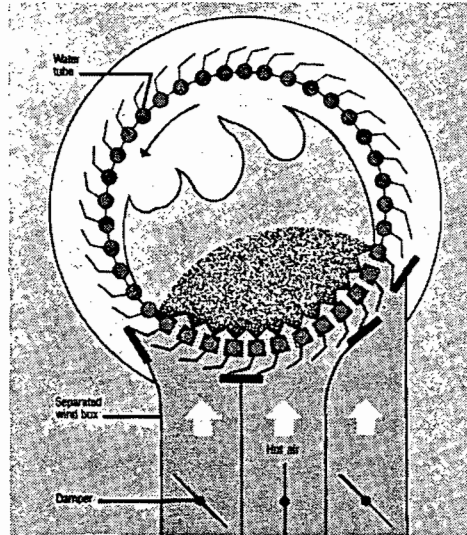
The O'Connor Water-Cooled Combustor

In a world where solid waste is both plentiful and hard to eliminate, and where energy is increasingly scarce and expensive, the integrated O'Connor™ Water-Cooled Rotary Combustor* and boiler system provides a practical solution for waste disposal and the generation of valuable energy.

FEATURES OF THE SYSTEM

- A simple, rotating cylinder stirs and mixes the burning material. This continuous overturning and stirring completes combustion and eliminates clinker formation.
- Heated forced air promotes drying and burning of solid waste.
- Water cooling the combustor is provided by pumping boiler water through the combustor tubes. Refractories are not required.
- High thermal efficiency between 70 and 80 percent provides maximum energy recovery in the form of high pressure steam.
- Simplified moving parts assure ease of operation, maintenance and servicing, as well as minimal down time.

*U.S. Patent No. 3822651



Sectional view displays combustion air flow.

THE COMBUSTOR / BOILER:

The O'Connor combustor is a hollow, water-cooled, steel cylinder made of alternating water tubes and fins welded between the tubes. The cylindrical combustor rotates on a slightly tilted axis at approximately 1/6 RPM. Fins are perforated to admit preheated combustion air. While solid waste burns, the combustor/boiler system recovers energy in the form of steam.

COMBUSTION:

Under forced draft, all air for combustion is preheated and fed through holes in the fins at sufficient velocity to penetrate the burning material. Solid waste is fed into the

ed grate in the boiler where the ash collects. Air passing through holes in the grate penetrates the ash to complete combustion. Ash and inorganic materials, such as metals and glass, are intermittently steam-blown into the ash discharge section. Hot gasses enter the boiler.

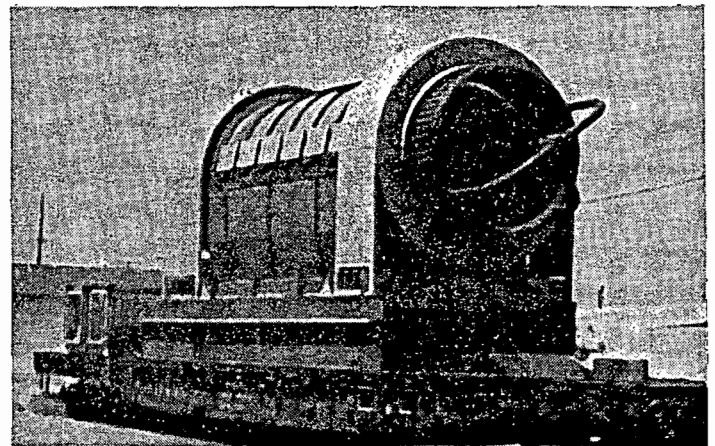
STEAM GENERATION:

inlet at the upper end by a hydraulically-actuated feed system.

Dry material burns first, furnishing heat necessary to complete combustion. Wastes containing moisture are dried as they tumble down the inclined cylinder.

Ninety-five percent of combustible material is incinerated in the combustor. Remaining combustibles are consumed on a special water-cool-

The closed-circuit, forced circulation system within the combustor generates approximately 30 percent of the steam. The remaining steam generation takes place in the boiler. Water from the boiler drum is pumped to the combustor's pressurized water circuit. The steam generated, mixed with the circulated water, returns to the steam drum. This circulation maintains combustor / boiler metal temperature at about 450 degrees Fahrenheit, depending on the pressure.



Combustor barrel assembly leaving factory for Sumner County, Tenn.

Advantages of The System

WEAR, EROSION AND CORROSION MINIMIZED:

The combustor's pressurized inlet water and saturated steam output remain at a constant temperature, minimizing thermal stress and reducing wear and erosion common to conventional incineration equipment. Forced draft, pre-heated combustion air distributed uniformly along the full length of the burning area provides maximum protection of the combustor walls.

LESS AIR REQUIRED:

Complete combustion is achieved using approximately one-third less air

than conventional systems. Lower air requirements increase thermal efficiency, decrease power needed for operation, and permit use of smaller boilers, precipitators, fans and stacks.

EFFICIENT COMBUSTION & CONTROL ASSURED:

Since the combustor is water-cooled (not dependent on air for cooling) air flow can be controlled to optimize combustion at various waste feed rates.

ODORS ELIMINATED:

Waste odors are incinerated by channeling raw combustion air from covered trash pits and tipping floors.

DOWN-TIME & MAINTENANCE REDUCED:

The combustor offers lower maintenance costs by eliminating moving grates and refractories required by other incinerator systems.

WASTE PRE-TREATMENT ELIMINATED:

The combustor makes waste separation or pre-drying of refuse (with moisture content of up to 50%) unnecessary.

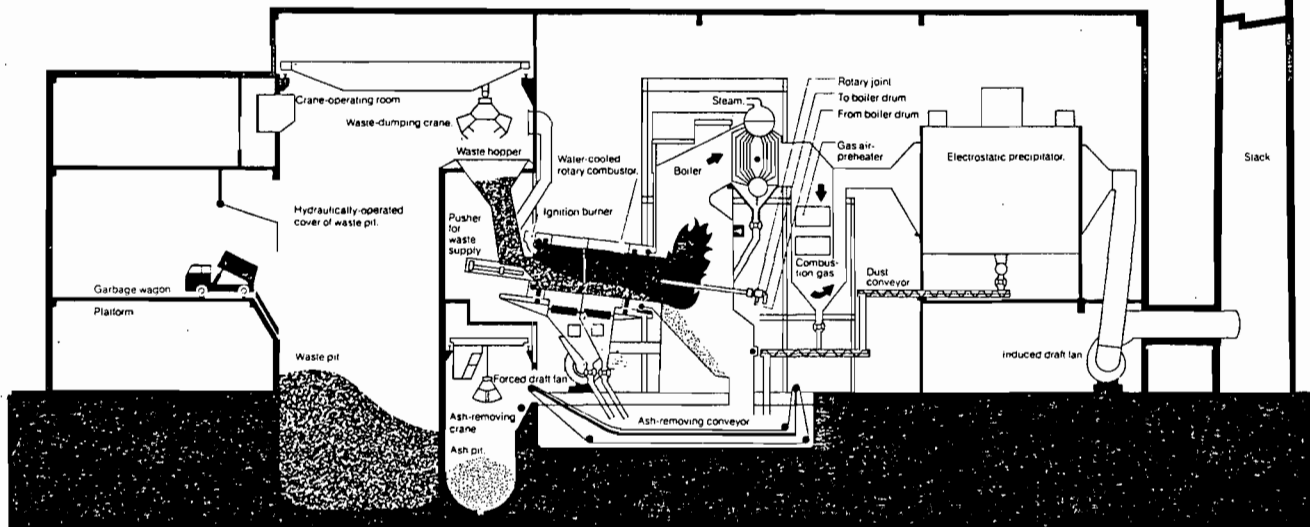
NO_x EMISSIONS REDUCED:

The combustor's lower incineration temperatures

generate considerably less NO_x (oxides of nitrogen) than conventional incinerators.

GAS TEMPERATURE CONTROLS ELIMINATED:

Unlike conventional refractory incinerators, gas temperature controls are not required. Steel tubes in the combustor wall are water-cooled, protecting the entire wall from corrosion even in the presence of P.V.C.



Cutaway of typical O'Connor Combustor plant.

Waste to Energy Applications

The O'Connor Combustor is available in sizes ranging from 50 tons per day to 300 tons per day. Multiple units may be installed for all applications.

MUNICIPAL AND COMMERCIAL:

Municipal refuse and commercial solid waste are growing problems, with common methods of disposal being landfill, ocean dumping or incineration. Landfill near populated areas is becoming increasingly expensive. New laws, in many cases, now prohibit ocean dumping. Ordinary incineration reduces waste volume but recovers little if any, energy and often cannot meet air pollution control standards.

The United States throws away 90 percent of waste that could be used to produce energy. This is no longer necessary, as solid waste incinerated in the O'Connor Combustor recovers energy, reducing the need to burn other forms of diminishing fuels.

INDUSTRIAL:

The final residues of petroleum refining — sludge, residual oil, or refinery bottoms — are hard to dispose and ecologi-

cally dangerous. By burning this material in the combustor, energy content of the petroleum residue can be readily reclaimed.

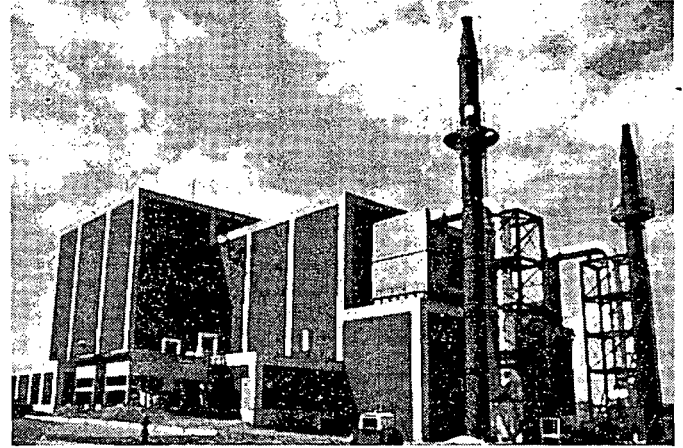
Many liquid or semi-solid process wastes as well as sewage sludge, can also be burned in the combustor.

FOOD PROCESSING AND AGRICULTURAL WASTES:

Many food / agricultural wastes can be burned in their primary residual form; others can be mixed with drier wastes to promote burning and energy recovery. Examples include nut shells, chicken processing refuse, feed lot garbage and manure, and bagasse (the waste left from sugar refining). Steam produced by the combustor can be used on-site in food processing plants, with electric power produced as an end product.

USE OF GENERATED STEAM:

The combustor's steam can be piped to users within any reasonable distance. Typically, high-pressure steam produced in the O'Connor sys-



Rear view of 200 TPD plant at Gallatin, Sumner County, Tennessee

tem is utilized for process applications, to power turbine-driven electrical generators or to heat buildings, to power chillers for central cooling plants, or to heat water for distribution.

HISTORY OF THE O'CONNOR COMBUSTOR:

Chadwell O'Connor, president of O'Connor Combustor Corporation and founder of the parent company O'Connor Engineering Laboratories is the inventor of the patented O'Connor combustor. He has spent over 30 years specializing in design, engineering, and construction supervision of power-generating stations, large central heating and refinery equipment, refrigeration plants, water and waste treatment, and chemical plants.

During his two decades with the Pasadena Light & Power Department, a city-owned utility in California, Mr. O'Connor was responsible for design and construction of Broadway No. 3, a 75,000 KW, 2,000 PSI unit with 1,000 degrees fahrenheit steam and 1,000 degrees fahrenheit reheat capacity. That station was judged the most efficient steam-electric plant of its size in the United States.

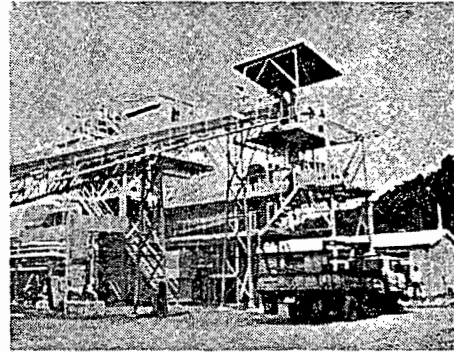
He was also in charge of converting Pasadena's incinerator plant to steam energy recovery. This involved piping steam to generating stations to supplement their own steam production.

It was in this plant that Mr. O'Connor conceptualized many of the innovations which eventually led to his development of the O'Connor Water-Cooled Rotary Combustor and its associated systems.

World Wide Operating O'Connor Combustor Plants

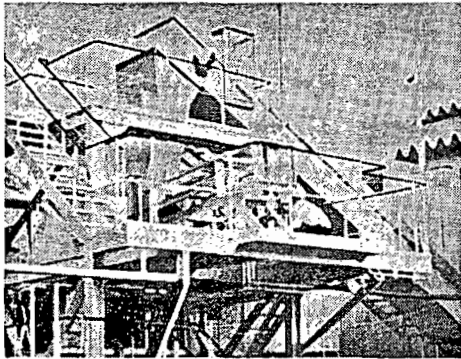
The first O'Connor Rotary Combustor was built in 1975 by Ishikawajima Harima Heavy Industries (IHI) under license from O'Connor Combustor Corporation. This 30 ton per day pilot plant unit was utilized for extensive systems evaluation and for testing the combustion of various types of municipal, industrial and agricultural solid waste products.

Following completion of this successful two-year "shake-down" and test evaluation program, the O'Connor Combustor technology was released for commercial availability in 1977. Since that time, a total of eight O'Connor Combustors have been built and are operating in five different plants in the U.S.A. and abroad.



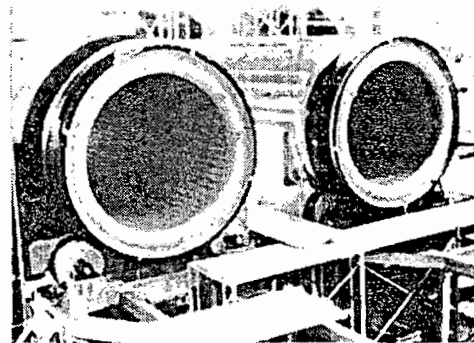
1 UNIT
SO₂ SCRUBBER

Industrial Waste to Energy - The Kanbara Tank Cleaning Service Company, Ltd. of Fukuyama, Japan has logged over 40,000 hours of operation on this 55 TPD, high BTU oil sludge to steam energy plant, since its start-up in 1977.



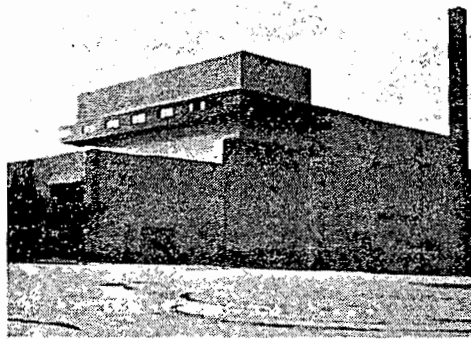
1 UNIT
INTO
EXISTING
E.S.P.

In the spring of 1978, IHI resized the pilot plant in Yokohama to 55 tons per day (TPD) to meet the growing needs of their Yokohama facility for the disposal of their industrial wastes and to support their ongoing evaluation and fuel testing programs.



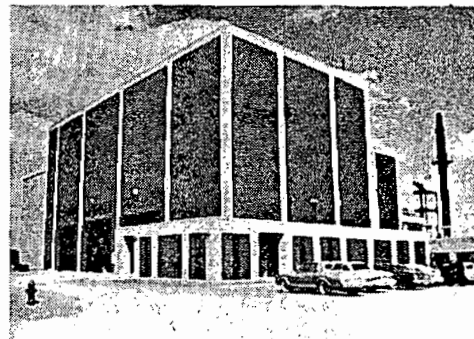
2-ESP'S

Agricultural Waste to Energy - These two combustors, shown under construction, were placed in service in July 1977 in a 135 TPD plant owned by the Siam Kraft Paper Company, Ltd. in Ban Pong, Thailand. The plant consumes bagasse (sugar cane residue), pith, rice hulls and paper waste to produce steam for the paper making process.



2 ESP'S
FOLLOWED
B.I.
SCRUBBERS

Municipal Waste to Energy - This 330 TPD municipal solid waste to energy facility is owned and operated by Kure City, Hiroshima Prefecture, Japan. The ultra-modern plant was placed in service in May 1980 and has achieved over 90% operational availability during its first year of commercial service.



2 ESP'S
4/84
5/84

Municipal Waste to Energy - This 200 TPD municipal solid waste to energy plant is owned and operated by the Resource Authority in Sumner County, Tennessee. This facility, which began operation in January 1982, delivers 50,000 pounds of steam per hour to three local industries and generates electricity for the Tennessee Valley Authority.

TYPICAL ROTARY COMBUSTOR/BOILER ESTIMATED PERFORMANCE

BASIS FOR PERFORMANCE

STEAM OUTLET PRESSURE	600 PSIG
STEAM OUTLET TEMPERATURE	600°F
FEEDWATER TEMPERATURE	250°F
AMBIENT AIR TEMPERATURE	70°F
A.H. EXIT GAS TEMPERATURE	400°F
EXCESS AIR	50%
RC-BLR EFFICIENCY	70%
ADIABATIC COMBUSTION TEMPERATURE	2940°F
FLUE GAS ENTERING BLR TEMPERATURE	2200°F
AIR SIDE Δp "W _c (O.C.C. EQUIP.)	8.5 "W _c
GAS SIDE Δp "W _c O.C.C. EQUIP.	5.0 "W _c

FUEL TYPE: MUNICIPAL SOLID WASTE

FUEL ANALYSIS - O.C.C. "STD." MSW LBS/100 LBS FUEL AS FIRED

C	25.53
H ₂	3.35
O ₂	21.38
S	.16
MOISTURE	22.00
INERTS	27.58
	100 LBS.

BTU / LB HHV 4500

MODEL NUMBER	RC 60	RC 70	RC 80	RC 90	RC100	RC 110	RC 120	RC 130
CAPACITY 10 ⁶ BTU / HR INPUT	22	32	42	52	65	80	95	110
CAPACITY FEED RATE, TPD	60	87	115	140	175	215	255	300
OUTLET STEAM FLOW, LBS/HR	14400	20900	27400	34000	42500	52300	62000	71900
COMBUSTION FLOW, SCFM	5160	7505	9850	12195	15245	18765	22280	25800
FLUE GAS FLOW ACFM, (400°F)	9900	14400	18895	23397	29246	35995	42744	49493
ASH, LBS/HR	1350	1960	2575	3190	3985	4900	5820	6750
FLUID FLOW THRU R.C., GPM	250	365	480	595	745	915	1085	1255

- ALL PERFORMANCE DATA IS BASED ON THE CAPACITY IN 10⁶ BTU/HR INPUT.
- NO ALLOWANCE MADE IN AIR OR GAS FLOWS FOR LEAKAGE OR INFILTRATION.
- DO NOT USE THIS DATA AS FINAL FOR A SPECIFIC APPLICATION - REFER TO APPLICABLE CONTRACT DOCUMENTS FOR GUARANTEED AND EXPECTED PERFORMANCE.

O'Connor Combustor Corporation

100 Kalmus Drive
Irvine Industrial Complex
Costa Mesa, California
92626
714 / 979-9691
213 / 629-1455
Telex 685-641

Regional Office:
107 Music City Circle
Suite 203
Nashville, Tennessee
37214
615 / 883-0078
Telex 78-6597

International Office:
14 Av. Industrielle
1227 Carouge
Geneva, Switzerland
022 / 42-79-38
Telex 28 449

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter on an)
Application for Permit by:)
)
Bay County Energy Resources) DER File No. AC 03-84703
c/o Westinghouse Waste) AC 03-84704
Technology Service Division)
Post Office Box 286)
Madison, Pennsylvania 15663)

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and proposed order of issuance for, a permit pursuant to Chapter 403, Florida Statutes for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Bay County Energy Resources, applied on March 26, 1984, to the Department of Environmental Regulation for permits to construct two incinerators to burn municipal solid waste and wood wastes at a location approximately eight miles from the center of Panama City, Florida on U.S. Highway 231.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The applicant was officially notified by the Department that an air construction permit was required for the proposed work.

This intent to issue shall be placed before the Secretary for final action unless an appropriate petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes, is filed within fourteen (14) days from receipt of this letter or

publication of the public notice (copy attached) required pursuant to Rule 17-103.150, Florida Administrative Code, whichever occurs first. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code (copy attached) and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301.

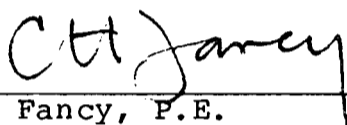
Petitions which are not filed in accordance with the above provisions are subject to dismissal by the Department. In the event a formal hearing is conducted pursuant to Section 120.57(1), all parties shall have opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witness and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exception to any order or hearing officer's recommended order, and to be represented by counsel. If an informal hearing is requested, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition, may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of

Administrative Hearings, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahase, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statues.

Executed the 27 day of July, 1984, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

Robert V. Kriegel
Peter Cunningham
Alan Richter
James Wilburn



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-8909

① AC
② Scott
③ Bay Energy Permanent Files
claim
Howard
12/2

4APT-AEEB

NOV 25 1997

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. James Leddy
Plant Manager
Bay County Energy Systems, Inc.
6510 Bay Line Drive
Panama City, Florida 32404

SUBJ: Bay County Energy Systems, Inc. (BCE)
Request for Information Pursuant to Section 114 of the
Clean Air Act (CAA)

Dear Mr. Leddy:

This is in response to your November 18, 1997, letter requesting a 14 day extension to comply with our Section 114 letter of November 12, 1997. You are requesting the Information Request submittal deadline to be extended from December 1 to December 15, 1997. Please be advised that your extension request is hereby approved.

If you have any questions regarding this letter please contact Mr. Mirza P. Baig, Chemical Engineer, at (404) 562-9196.

Thank you for your cooperation in this matter.

Sincerely,

Winston A. Smith
Director
Air, Pesticides, and Toxics
Management Division

cc: Howard Rhodes, FDEP, Tallahassee
Jim Pennington, FDEP, Tallahassee
Richard Spaulding, Panama City (FDEP) Branch Office
Carolyn Salmon, FDEP, Pensacola



BAY COUNTY ENERGY SYSTEMS, INC.

6510 Bay Line Drive
Panama City, Florida 32404
(904) 785-7933
(904) 784-1779 Fax

RECEIVED

NOV 16 1995

BUREAU OF
AIR REGULATION

BCES/DEP-95-200

November 15, 1995

Mr. Al Linero
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399
MS 5505

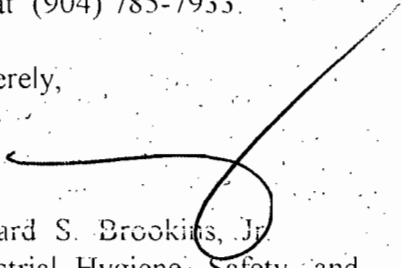
Ref.: Air Permits AO03-165754 and AO03-165755

Dear Al:

Confirming our conversation this date regarding the request for modification dated November 18, 1993, Bay County Energy Systems, Inc., wishes to withdraw this request. I apologize for the delay in acting on this matter.

If I may be of any further assistance in this matter, please do not hesitate to contact me at (904) 785-7933.

Sincerely,


Richard S. Brookins, Jr.
Industrial Hygiene, Safety, and
Environmental Coordinator

cc: Jim Leddy
Dave Testa



Department of Environmental Protection

Lawton Chiles
Governor

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
October 27, 1995

Virginia B. Wetherell
Secretary

RECEIVED

OCT 30 1995

BUREAU OF
AIR REGULATION

Andrew Jubal Smith
Junior Attorney
Legal Environmental Assistance Foundation
1115 North Gadsden Street
Tallahassee, Florida 32303-6327

Dear Mr. Smith:

As we discussed on October 25, I am forwarding Clair Fancy's notes responding to questions included in your letter to Clair dated 9/22/95, regarding the Bay County Resource Recovery facility. Also, as we discussed, my comments in response to the questions that Clair left for me to address are as follows.

Your questions 1, 3, 4, & 5: To the best of my recollection the answer to all of these would be no. Generally speaking, we have not had any significant compliance problems at the BCRR facility.

Your question 12 refers to studies that may have been done by the facility to evaluate carbon injection/mercury adsorption systems. I know of no such studies done by BCRR. However, I am sure that the process has been studied by a number of investigators since it has been used commercially for a number of years. Although I do not recall receiving the results of any evaluations in this office, Richard Brookins at BCRR may have some helpful information. His telephone number is (904) 785-7933. Richard will also probably be able to give you an update on their plans to convert their ESP controls to dry scrubbing with lime and carbon injection for acid gas and mercury emissions reductions. This control system utilizes a baghouse and would additionally be expected to reduce particulate emissions.

If you have any additional questions or comments, please contact me at (904) 444-8364.

Sincerely,

A handwritten signature in black ink that reads "Ed K. Middleswart". The signature is written in a cursive style with a large, stylized initial "E".

Ed K. Middleswart, P.E.
Program Administrator
Air Resources Management

EKM:emm



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

April 27, 1995

Mr. Andrew Jubal Smith
Legal Environmental Assistance
Foundation
1115 North Gadsden Street
Tallahassee, Florida 32303-6327

Dear Mr. Smith:

This is in response to your April 11 letter. To the best of my knowledge, this office has no information on dioxin/furan emissions from Bay County.

You might want to make a similar request to the Department's Northwest District to the attention of: Mr. Ed Middleswart, District Air Program Administrator, 160 Government Center, Pensacola, Florida 32501-5794.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/cjh

cc: Ed Middleswart, Northwest District



LEAF
LEGAL ENVIRONMENTAL
ASSISTANCE FOUNDATION

RECEIVED

APR 14 1995

April 11, 1995

Bureau of
Air Regulation

Ms. Claire H. Fancy, P.E.
Chief, Bureau of Air Regulation
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

**Re: Public Records Request - Bay County Energy Systems, Inc.
- Dioxin/Furan Test Data**

Dear Ms. Fancy:

Pursuant to Section 119.07(1)(a), F.S., and Rule 17-101.025, F.A.C., I would like to obtain copies of the following documents:

1. Dioxin/Furan Test Data as requested by FDEP on February 25, 1994.
2. Any reports, analyses, documentation, correspondence, memoranda or electronic mail of analyses for priority pollutants in the City of Panama City's sludges in relation to the City's request to burn sludges at the Bay County Energy Systems, Inc. municipal waste incinerator.
3. Any reports, analyses, documentation, correspondence, applications, petitions or electronic mail concerning requests by Bay County's Resource Recovery Facility, to burn sludges at the Bay County Energy System, Inc.'s municipal solid waste incinerator.

Please inform me of the availability of the foregoing documents and of the costs of copying. If any documents are exempt from disclosure, please inform me in writing. If you have any questions, call me at (904) 681-2591.

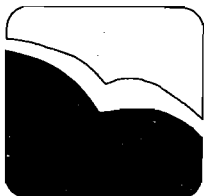
Sincerely,

Andrew Jubal Smith

leaf.ej\hcc\bayougeolrequest.dep

A Public Interest Law Firm

1115 NORTH GADSDEN STREET • TALLAHASSEE, FLORIDA • 32303-6327 • 904-681-2591 • FAX 904-224-1275 *Recycled Paper*



BAY COUNTY ENERGY SYSTEMS, INC.

6510 Bay Line Drive
Panama City, Florida 32404
(904) 785-7933
(904) 784-1779 Fax

VIA FAX - HARDCOPY TO FOLLOW

BCES/DEP-94-065

March 1, 1994

RECEIVED
MAR 4 1994
Bureau of
Air Regulation

Mr. C. H. Fancy, P.E.
Chief
Bureau of Air Regulation
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Sir:

In response to your letter dated February 25, 1994 to Mr. Bill Hudson of the Bay County Solid Waste Department, I wish to provide the following information:

The ESP Design Inlet Temperature is 400 °F.

The Unit #1 daily average inlet temperature for the period April 1, 1993 through February 28, 1994 was 408 °F.

The Unit #2 daily average inlet temperature for the period April 1, 1993 through February 28, 1994 was 433 °F.

There has not been any compliance Dioxin/Furan testing.

If I may be of any further assistance in this matter, please do not hesitate to call me at (904) 785-7933.

Sincerely,


Richard S. Brookins, Jr.
Industrial Hygiene, Safety,
and Environmental Coordinator

RSB/pct

cc: Bill Hudson
Dave Testa



Florida Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

February 25, 1994

Mr. Bill Hudson
Bay County Public Utilities
Solid Waste Division
3400 Transmitter Road
Panama City, Florida 32404

Dear Mr. Hudson:

The Bay County Resource Management Center, is on a priority list from EPA's Office of Air Quality Standards, Emissions Standards Division, for obtaining specific operating information. For the Bay County facility, the following information for each unit, if available, is needed:

- a. ESP Design Inlet Temperature
- b. ESP Inlet Temperature Operating Data
- c. Dioxin/Furan Test Data

Your response must be submitted in writing and is needed by Tuesday, March 1, 1994. The Division of Air Resource Management FAX number is 904/922-6979.

If you have any questions, please call Doug Outlaw or Preston Lewis at 904/488-1344. I have attached a copy of the letter from EPA/Region IV requesting the the Department to provide the ESP and dioxin/furan test data.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

attachment

cc: Ed Middleswart, DEP/Pensacola
Scott Davis, EPA/Region IV



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

FACSIMILE CORRESPONDENCE

DATE: **FEB 24 1994**

FROM: Scott Davis *Scott Davis*
Air Enforcement Branch

TO: Preston Lewis
Air Permitting Branch
Florida Department of
Environmental Protection

The following list of municipal waste combustor facilities are on a priority list from EPA's Office of Air Quality Standards, Emissions Standards Division, for obtaining specific operating information. For these sources, the following data is desired:

- ESP Design Inlet Temperature
- ESP Inlet Temperature Operating Data
- Dioxin/Furan Test Data

As a minimum, the information on ESP Inlet Temperatures (both Design and Operating Data) must be submitted in writing to EPA Region IV from these sources:

1. Hillsborough County Resource Recovery Facility (3 units)
2. Pinellas County Resource Recovery Facility (3 units)
3. Tampa municipal waste combustor (4 units)
4. Bay County Waste to Energy (2 units)

Further information will be relayed to you by telephone, and your questions and comments can be discussed at that time. Thank you for your assistance in this matter.

OPTIONAL FORM NO. 10

FAX TRANSMITTAL

Page 1

From: Preston Lewis	To: Scott Davis
Department: FLORIDA DEP	Phone: 404-347-5014
Fax: 904-922-6979	Fax: 404-347-3059



Florida Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

FAX TRANSMITTAL SHEET

TO: David Testa

DATE: 11-24-93 PHONE: 412-824-8131

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 2

FROM: Bruce Mitchell

DIVISION OF AIR RESOURCES MANAGEMENT

COMMENTS: Testily protocol.

PHONE: 904-488-1344

FAX NUMBER: 904/922-6979

If there are any problems with this fax transmittal, please call the above phone number.

Table 1:

BAY RESOURCE MANAGEMENT CENTER
TEST PROTOCOL AND METHODS

Constituent	Test Method
Particulate Matter	EPA Method 5
Hydrogen Chloride	EPA Method 26
Dioxins/Furans*	EPA Method 23
Semi Volatiles	EPA Method 23
Volatile Organic Compounds	EPA Method 18
Sulfur Dioxide	EPA Method 6C
Nitrogen Oxides	EPA Method 7E
Carbon Monoxide	EPA Method 10
Total Hydrocarbons	EPA Method 25A
Stack Gas Flow	EPA Method 2
Stack Gas Moisture	EPA Method 4
O ₂ /CO ₂ /CO	EPA Method 3
Opacity	EPA Method 9

*Not required only if the pharmaceuticals/consumer products waste stream does not contain any chlorinated compounds.

MESSAGE CONFIRMATION

NOV-24-'93 WED 16:32

TERM ID:

P-9999

TEL NO:

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
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I N T E R O F F I C E M E M O R A N D U M

Date: 22-Nov-1993 05:32pm EST
From: Preston Lewis TAL
LEWIS_P
Dept: Air Resources Management
Tel No: 904/488-1344
SUNCOM:

TO: Clair Fancy TAL
TO: John Brown TAL
TO: Douglas Outlaw TAL

(FANCY_C)
(BROWN_J)
(OUTLAW_D)

Subject: Bay MWC

For your information.

~~DD my outline~~
① Bill Leffler W #23
② file - Paty Adams

¹³⁰⁻⁴
Bruce, ~~Adams~~
lets get at
issue on its own
merit, and not on
repe
timefest.
Clay

INTEROFFICE MEMORANDUM

Date: 22-Nov-1993 10:07am EST
From: William Leffler TAL
LEFFLER W
Dept: Air Resources Management
Tel No: 904/488-1344 222-3146
SUNCOM: 278-1344 291-9520

TO: Carolyn Salmon PEN (SALMON_C @ A1 @ PNS1)
CC: Preston Lewis TAL (LEWIS_P)
CC: Louis Nichols TAL (NICHOLS_L)
CC: Mike Harley TAL (HARLEY_M)

Subject: Bay County Energy

Carolyn:

I am advised that Bay County Energy is requesting a permit modification to burn a pharmaceutical waste. This is probably outdated consumer products, but I have not seen the application.

They are requesting testing variances to go with these permit modifications. Preston Lewis is concerned with metal and possible toxic emissions. Again, I do not know the particulars.

I have advised Preston Lewis (PSD permitting at BAR) of the high incidence of malfunction with their continuous emission monitors and suggested that reliable CEM monitoring ought to be in place before any trial burn or fuel substitution is authorized.

Have you sent the warning letter? Will you send us a copy? I am inclined to use this new permit application (modification) as some leverage to insure better compliance with CEMS "continuous operation" requirement.

that's
my
call

Initial inquiry with our meteorological people indicates that lightning incidence in the Panama City area is substantially less than that of the Tampa Bay and Polk County areas. We do not have high CEM failures in facilities which are located in these areas. I will continue to document the relative lightning activity throughout the state.

Acknowledge



Westinghouse
Electric Corporation

Resource Energy Systems

1501 Ardmore Boulevard
Pittsburgh Pennsylvania 15221

November 18, 1993

Mr. Clair Fancy
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, FL 32399

0001103

RECEIVED
DER - MAIL ROOM
1993 NOV 19 AM 10:00

Dear Mr. Fancy:

As a follow-up to our conversation on November 18, 1993, Bay County Resource Energy Systems, Inc., on behalf of the Bay County Resource Recovery Facility (BCRRF), is hereby requesting that Air Quality Permit A003-165754 and A003-165755 be amended to allow for a test burn of a mixture of municipal solid waste and pharmaceutical/consumer product waste. This test burn will be conducted for a period of approximately one week during the last two weeks of December 1993. The handling procedures and waste analysis methods as described in our letter of November 16, 1993 and previous submittals to your office will be adhered to during this test burn.

Also, enclosed is a check for \$250.00 for the permit amendment application fee.

If you have any questions on this matter, please do not hesitate to contact me at 412/247-6478.

Sincerely,

David H. Testa
Senior Environmental Engineer

002222

Enclosure

cc: J. Joseph, DMG, Inc.
J. Leddy, BRES, Inc.
R. Brookins, BRES, Inc.
D. Lazzara, RES

BEST AVAILABLE COPY

DAVID H. TESTA
115 ASHLEY DR. 412-793-2161
VERONA, PA 15147

NOV 48 01103
19 93

1151

PAY TO THE ORDER OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION \$ 250.00

Two HUNDRED FIFTY AND 00/xx DOLLARS

Equibank

Pittsburgh, PA

FOR PERMIT AMENDMENT REQUEST

David H. Testa

© Clarke American W
GILSONIAN © SAFETY



Florida Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

November 22, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David Testa
Bay Resource Management Center
c/o Westinghouse RESD
1501 Ardmore Boulevard
Pittsburgh, Pennsylvania 15221

Dear Mr. Testa:

Re: Request for Authorization to Conduct Pollutant Emissions Performance Tests While Firing a Combination of Consumer Product and Pharmaceutical Wastes in the Bay Resource Management Center

Attached is one copy of the proposed performance test authorization amendment to operation permits, Nos. AO 03-165754 and AO 03-165755, for Bay Resource Management Center to conduct pollutant emissions tests on the facility's two municipal waste combustors. The proposed performance tests for pollutant emissions will be conducted at baseline conditions while firing municipal wastes only and while firing a combination of municipal solid wastes and segregated pharmaceuticals/consumer product wastes. The segregated pharmaceutical/consumer product wastes maximum feed rate shall be no more than 2.0%, by weight, of the total waste feed of 10.63 tons per hour per unit. The municipal waste combustors were permitted under construction permits, Nos. AC 03-145061 and AC 03-152196 and operation permits, Nos. AO 03-165754 and AO 03-165755, and are not permitted to fire segregated pharmaceuticals/consumer products wastes under the conditions of the referenced permits.

The emissions tests are being proposed in order to gather data regarding pollutant emissions while firing pharmaceuticals/consumer wastes with municipal solid waste. Screening for applicability of a modification and Prevention of Signification (PSD) will be in accordance with Chapter 403, Florida Statutes; Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version).

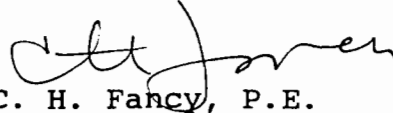
If, after the performance test results are evaluated by the Department's Bureau of Air Regulation and involved parties (i.e., Department's Northwest District, U.S. EPA, National Park Service, Bay County, etc.) and it is determined that actual pollutant emissions (baseline @ 100% municipal solid waste vs. a combination

Mr. David Testa
Amendment to AO 03-165754 & AO 03-165755
November 22, 1993
Page Two

of municipal solid waste and segregated pharmaceutical/consumer waste) did not increase, the Department may issue an amendment to the construction permits, Nos. AC 03-145061 and AC 03-152196, and to operation permits, Nos. AO 03-165754 and AO 03-165755, authorizing continuous utilization/firing of segregated pharmaceutical/consumer product wastes, in the quantities authorized to be commingled with the normal municipal solid waste during this test, in the facility's two municipal waste combustors. However, if there is an actual emissions increase in pollutant emissions, Bay Resource Management Center will not be permitted to fire segregated pharmaceutical/consumer product wastes in the sources without further emissions evaluation by the Department's Bureau of Air Regulation and involved parties.

If there are any questions, please call Mr. Preston Lewis at (904)488-1344 or submit any written comments you wish to have considered concerning the Department's proposed action to me.

Sincerely,



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/DO/rbm

Attachments

c: Ed Middleswart, NW District
Jewell Harper, EPA/Region IV
John Bunyak, NPS
Gary Shaffer, NWDB/Panama City

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of
Application/Request for Permit Amendment by:

Bay Resource Management Center
Westinghouse RESD
1501 Ardmore Boulevard
Pittsburgh, Pennsylvania 15221

DEP File Nos. AO 03-165754
AO 03-165755

INTENT TO ISSUE

The Department of Environmental Protection (Department) hereby gives notice of its intent to issue to Bay Resource Management Center an amendment to the operation permits, Nos. AO 03-165754 and AO 03-165755, authorizing performance tests for pollutant emissions while firing a combination of municipal solid wastes and segregated pharmaceuticals/consumer product wastes, as detailed in the application/request package specified above. The Department is issuing this Intent to Issue for the reasons stated below and in the attached proposed amendment.

The applicant, Bay Resource Management Center, submitted a request on November 18, 1993, to the Department's Bureau of Air Regulation (BAR) for authorization to conduct pollutant emissions tests on the two municipal waste combustors while firing a combination of municipal solid waste and segregated pharmaceuticals/consumer product wastes. The performance tests for pollutant emissions will be conducted at baseline conditions while firing municipal wastes only and while firing a combination of municipal solid wastes and segregated pharmaceuticals/consumer product wastes. The maximum feed rate shall not exceed 2.0%, by weight, of the permitted total waste feed of 10.63 tons per hour per unit. The municipal waste combustors were permitted under construction permits, Nos. AC 03-145061 and AC 03-152196, and operation permits, Nos. AO 03-165754 and AO 03-165755, and are not permitted to fire segregated pharmaceuticals/consumer products wastes in accordance with the referenced permits.

Screening for applicability of modification and Prevention of Signification (PSD) will be in accordance with Chapter 403, Florida Statutes (F.S.); Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version).

If, after the performance test results are evaluated by the Department's BAR and affected parties (i.e., Department's Northwest District, U.S. EPA, National Park Service, Bay County, etc.) and it is determined that actual pollutant emissions (baseline @ 100% municipal solid waste vs. a combination of segregated pharmaceutical/consumer waste and municipal solid waste) did not

increase, the Department may issue an amendment to the construction permits, Nos. AC 03-145061 and AC 03-152196, and to operation permits, Nos. AO 03-165754 and AO 03-165755, authorizing continuous utilization/firing of segregated pharmaceutical/consumer product wastes, in the quantities approved for this test and commingled with the normal waste, in the facility's two municipal waste combustors. However, if there is an actual emissions increase in pollutant emissions, Bay Resource Management Center will not be permitted to fire segregated pharmaceutical/consumer product wastes in the sources without further evaluation by the Department's BAR and involved parties.

The proposed project will occur at the applicant's facility located off U.S. Highway 231 northeast of Panama City, Bay County, Florida.

The Department has permitting jurisdiction under Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, 40 CFR (July, 1992 version). The project is not exempt from permitting procedures. The Department has determined that a permit amendment is required for the proposed activity.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue a Permit Amendment. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be the one with significant circulation in the area that may be affected by the permitting action. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the amendment.

The Department will issue the permit amendment with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida

32399-2400. Petitions filed by the permit amendment applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

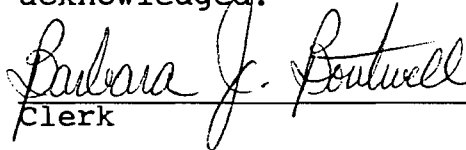
Copies furnished to:

Ed Middleswart, NW District
Jewell Harper, EPA/Region IV
John Bunyak, NPS
Gary Shaffer, NWDB/Panama City

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 11/23/93.

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statute, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.


Clerk

11/23/93
Date

State of Florida
Department of Environmental Protection
Notice of Intent to Issue

Bay Resource Management Center

Amendment to AO 03-165754 & AC 03-165755

The Department of Environmental Protection (Department) hereby gives notice of its intent to issue to Bay Resource Management Center an amendment to operation permits, Nos. AO 03-165754 and AO 03-165755, authorizing performance tests for pollutant emissions while firing a combination of municipal solid wastes and segregated pharmaceuticals/consumer product wastes, as detailed in the application/request package. The Department is issuing this Intent to Issue for the reasons stated below and in the attached proposed amendment.

The applicant, Bay Resource Management Center, c/o Westinghouse RESD, 1501 Ardmore Boulevard, Pittsburgh, Pennsylvania, 15221, submitted a request on November 18, 1993, to the Department's Bureau of Air Regulation (BAR) for authorization to conduct pollutant emissions tests on the facility's two municipal waste combustors while firing a combination of municipal solid waste and segregated pharmaceuticals/consumer product wastes. The performance tests for pollutant emissions will be conducted at baseline conditions while firing municipal solid wastes only and while firing a combination of municipal solid wastes and segregated pharmaceuticals/consumer product wastes. The maximum feed rate shall be less than 2.0%, by weight, of the permitted total waste feed of 10.63 tons per hour per unit. The municipal waste combustors were permitted under construction permits, Nos. AC 03-145061 and AC 03-152196, and operation permits, Nos. AO 03-165754 and AO 03-165755, and are not permitted to fire segregated pharmaceuticals/consumer products wastes in accordance with the referenced permits.

Screening for a modification and Prevention of Signification (PSD) will be in accordance with Chapter 403, Florida Statutes (F.S.); Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version).

If, after the performance test results are evaluated by the Department's BAR and affected parties (i.e., Department's Northwest District, U.S. EPA, National Park Service, Bay County, etc.) and it is determined that actual pollutant emissions (baseline @ 100% municipal solid waste vs. a combination of municipal solid waste and segregated pharmaceutical/consumer waste) did not increase, the Department may issue an

amendment to the construction permits, Nos. AC 03-145061 and AC 03-152196, and to operation permits, Nos. AO 03-165754 and AO 03-165755, authorizing continuous utilization/firing of segregated pharmaceutical/consumer product wastes, in the quantities authorized to be commingled with the normal solid waste during this test, in the facility's two municipal waste combustors. However, if there is an actual emissions increase in pollutant emissions, Bay Resource Management Center will not be permitted to fire segregated pharmaceutical/consumer product wastes in the sources without further evaluation by the Department's BAR and involved parties.

The proposed project will occur at the applicant's facility located off U.S. Highway 231 northeast of Panama City, Bay County, Florida.

The Department has permitting jurisdiction under Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, 40 CFR (July, 1992 version). The project is not exempt from permitting procedures. The Department has determined that a permit amendment is required for the proposed activity.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application/request have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application/request are available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia, Suite #4
Tallahassee, Florida 32301

Department of Environmental Protection
Northwest District Office
160 Governmental Center
Pensacola, Florida 32501-5794

Department of Environmental Protection
Northwest District Branch Office
2353 Jenks Avenue
Panama City, Florida 32405

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

DRAFT

December XX, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David Testa
Bay Resource Management Center
c/o Westinghouse RESD
1501 Ardmore Boulevard
Pittsburgh, Pennsylvania 15221

Dear Mr. Testa:

Re: Letter Amendment to Operation Permits, Nos. AO 03-165754 and AO 03-165755 to Conduct Performance Tests for Pollutant Emissions While Firing a Combination of Consumer Product and Pharmaceutical Wastes in the Bay Resource Management Center

The Department has reviewed the request that you provided on November 18, 1993. We have also considered the Department's legal authority to allow Bay Resource Management Center to conduct the performance tests. Paragraph 403.061(15), Florida Statutes (F.S.) authorizes the Department to consult with any person proposing to construct, install, or otherwise acquire a pollution control device or system concerning the efficacy of such device or system, or the pollution problem which may be related to the source, device, or system. Paragraph 403.061(16), F.S., authorizes the Department to encourage voluntary cooperation by persons in order to achieve the purposes of the state environmental control act. Paragraph 403.061(18), F.S., authorizes the Department to encourage and conduct studies, investigations, and research relating to the causes and control of pollution. Florida Administrative Code (F.A.C.) Rule 17-210.700(5) authorizes the Department to consider variation in industrial equipment and make allowances for excess emissions that provide practical regulatory controls consistent with the public interest.

In accordance with the provisions of Paragraphs 403.061(15), (16), and (18), F.S., and F.A.C. Rule 17-210.700(5), you are hereby authorized to conduct performance tests for pollutant emissions on the two municipal waste combustors while firing a combination of municipal solid waste and segregated pharmaceuticals/consumer product wastes. The maximum feed rate shall be no more than 2.0%, by weight, of the permitted total waste feed of 10.63 tons per hour per unit. The municipal waste combustors were permitted under construction permits, Nos. AC 03-145061 and AC 03-152196, and operation permits, Nos. AO 03-165754 and AO 03-165755, and are not permitted to fire segregated pharmaceuticals/consumer products wastes in accordance with the referenced permits.

Mr. David Testa
Amendment to AO 03-165154 & AO 03-165755
December XX, 1993
Page 2

DRAFT

The emissions tests are being proposed in order to gather data regarding pollutant emissions while firing segregated pharmaceuticals/consumer product wastes with municipal solid waste. Screening for applicability of modification and Prevention of Significant Deterioration (PSD) shall be in accordance with Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version), which will compare the actual pollutant emissions of the baseline tests (100% municipal waste) to the actual pollutant emissions of the performance tests while firing a combination of segregated pharmaceutical/consumer product wastes with municipal solid waste. The performance test results will be evaluated by the Department's Bureau of Air Regulation (BAR) and involved parties (i.e., Department's Northwest District, U.S. EPA, National Park Service, Bay County, etc.).

The performance tests shall be subject to the following conditions:

1. The permittee shall notify, in writing, the Department's Northwest District and BAR offices at least 15 days prior to commencement of the performance tests. A written report shall be submitted to these offices within 45 days upon completion of the last test run.
2. The performance tests shall be conducted for not more than 21 consecutive days beginning on the initial baseline tests, but all testing must be concluded by January 31, 1994.
3. Each segregated pharmaceutical/consumer product waste shall be analyzed in accordance with the provisions in Section 3.0, Waste Evaluation Process, in the enclosure to Attachment 3.
4. Segregated pharmaceutical/consumer product wastes shall be limited to those shown in the Westinghouse table 3 and shall not contain lead, cadmium, or mercury compounds.
5. Segregated pharmaceutical/consumer product wastes shall be mixed with municipal solid waste in a municipal waste combustor unit. The feed rate of the segregated pharmaceutical/consumer product wastes shall be no more than 2.0 percent, by weight, of the combined waste feed rate. The maximum permitted municipal solid waste feed rate shall not exceed 10.63 TPH per unit.
6. The pollutant emission results from the baseline tests (100% municipal solid waste) shall be compared to the pollutant emissions tests of the segregated pharmaceutical/consumer product wastes mixed with municipal solid waste to determine if:

DRAFT

Mr. David Testa
Amendment to AO 03-165754 & AO 03-165755
December XX, 1993
Page 3

- a) actual emissions increased (baseline versus segregated pharmaceutical/consumer product wastes mixed with municipal solid waste).
- b) satisfactory waste handling procedures (mixing procedures and charging rates) can be demonstrated for segregated pharmaceutical/consumer product wastes.
- 7. Performance tests shall be conducted using EPA Methods, as contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources), or 40 CFR Part 61 (National Emission Standards for for Hazardous Air Pollutants), or any other method approved by the Department, in accordance with F.A.C. Chapter 17-297. Tests to be performed and the test methods are listed in Table 1.
- 8. Daily accounting of each municipal waste combustor unit's operations while firing segregated pharmaceutical/consumer product wastes shall be required.
- 9. If additional time is needed, the permittee shall request an extension of time and provide the Department with documentation of the progress accomplished to date and shall identify what is left to be done to complete the performance tests.
- 10. A Type I audit is required and shall be coordinated with the Department's Northwest District office.
- 11. Documentation of the firing rates of municipal solid waste vs. segregated pharmaceutical/consumer product (i.e., actual firing rate by weight) shall be tabulated hourly.
- 12. The authorized performance tests shall not result in the release of objectionable odors pursuant to F.A.C. Rule 17-296.320(2).
- 13. Performance testing shall immediately cease upon the occurrence of a valid environmental complaint by a citizen or other party, or a nuisance or danger to public health or welfare. Performance testing shall not resume until appropriate measures to correct the problem have been implemented.
- 14. The performance tests for pollutant emissions shall be conducted under the direct supervision and responsible charge of a professional engineer registered in Florida.

DRAFT

15. This Department action is just to authorize the performance tests for pollutant emissions on the facility's two municipal waste combustors while firing a combination of segregated pharmaceutical/consumer product wastes with municipal solid waste. Any firing of segregated pharmaceutical/consumer product wastes after the last performance test run is completed will be deemed a violation of the past construction permits, Nos. AC 03-145061 and AC 03-152196, and operation permits, Nos. AO 03-165754 and AO 03-165755.
16. Complete documentation (recording) of any firing of segregated pharmaceutical/consumer product wastes in the facility's two municipal waste combustors shall be required (i.e., testing results; materials utilized, by weight; etc.) and kept on file for a minimum of two years.
17. The Department shall be notified in writing on the date of the last test run completion.
18. The performance tests shall be conducted while each of the municipal waste combustors is operating at 95-100% of the permitted capacity.
19. Any changes in the permits for continuous burning of these products resulting from the testing outcome will be limited to the types of products used during the tests.
20. Attachments (See Attachment Section) are incorporated.

The Department has relied on the information referenced in the attachments and conversations with representatives of the Bay Resource Management Center operation, Westinghouse Electric Corporation, Resource Energy Systems, in authorizing this permit amendment to the operation permits, Nos. AO 03-165154 and AO 03-165755.

Mr. David Testa
Amendment to AO 03-165154 & AO 03-165755
December XX, 1993
Page 5

DRAFT

This letter amendment and its Attachments must be attached to the air operation permits, Nos. AO 03-165154 and AO 03-165755, and shall become a part of the permits.

Sincerely,

Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/DO/rbm

Attachments

cc: Ed Middleswart, NW District
Jewell Harper, EPA/Region IV
John Bunyak, NPS
Gary Shaffer, NWDB/Panama City

Table 1:

BAY RESOURCE MANAGEMENT CENTER
TEST PROTOCOL AND METHODS

Constituent	Test Method
Particulate Matter	EPA Method 5
Hydrogen Chloride	EPA Method 26
Dioxins/Furans*	EPA Method 23
Semi Volatiles	EPA Method 23
Volatile Organic Compounds	EPA Method 18
Sulfur Dioxide	EPA Method 6C
Nitrogen Oxides	EPA Method 7E
Carbon Monoxide	EPA Method 10
Total Hydrocarbons	EPA Method 25A
Stack Gas Flow	EPA Method 2
Stack Gas Moisture	EPA Method 4
O ₂ /CO ₂ /CO	EPA Method 3
Opacity	EPA Method 9

*Not required only if the pharmaceuticals/consumer products waste stream does not contain any chlorinated compounds.

**TABLE 3
GENERIC CATEGORIES OF WASTE**

1. <u>PHARMACEUTICALS</u>	<u>EXAMPLES</u>
Over the Counter Products	Vitamin drops, tablets, capsules Aspirin Allergy creams, tablets, elixir Chlorpheniramine Maleate Cough drops and syrups Anti-acid tablets, liquids Sinus tablets, liquids Antifungal Creams
Prescription Drugs	Amoxicillin Carbamazepine Cefazolin Cyclobenzaprine HCl tablets Gantrez 955 Guaifenesin Quinidine
2. <u>COSMETICS/HEALTH CARE PRODUCTS</u>	Hand creams Lip gels Mouthwashes Ovulation test kits Toothpaste Denture cleansers
3. <u>FOOD RELATED INGREDIENTS/ RAW MATERIALS</u>	Flour Milk protein Aloe Bees Wax Borax Corn bran, starch Cottonseed oil Dried fruit pieces Egg whites, dry Fructose Guar gum Rice Nuts

TABLE 3 (continued)

4. FOOD CONSUMER PRODUCTS

Breathsaver mints
Candy
Chewing gum
Chocolate
Marshmallow

5. INDUSTRIAL PROCESSING RESIDUES

Leather
Rubber, Elastomer
Paper, Cardboard
Polyethylene, Polystyrene
Polyurethane and other non-
halogenated plastics
Textile wastes including yarn,
fabric and fiber
Foam, packaging, shipping and
container materials
Labeling materials
Paper products
Wood Products
Corrugated Cardboard

Attachment Section

1. Westinghouse Electric Corporation, Resource Energy Systems, letter with enclosure received August 16, 1993.
2. Westinghouse Electric Corporation, Resource Energy Systems, letter with enclosure received August 31, 1993.
3. Westinghouse Electric Corporation, Resource Energy Systems, letter with enclosure received November 5, 1993.
4. DMG Environmental, Inc., letter received November 16, 1993.
5. Westinghouse Electric Corporation, Resource Energy Systems, letter with enclosure received November 18, 1993.
6. 40 CFR (July, 1992 version).
7. Intent to Issue package dated November 19, 1993.
8. Public Notice received November XX, 1993.
9. Final Determination dated December XX, 1993.

Attachment 1



Westinghouse
Electric Corporation

RECEIVED

AUG 16 1993

Division of Air
Resources Management

R E S D

1501 Ardmore Boulevard
Pittsburgh Pennsylvania 15221

August 12, 1993

Mr. Preston Lewis
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

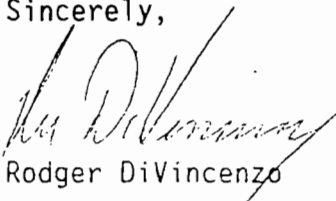
Dear Mr. Lewis:

As discussed, enclosed is a revised plan requesting approval for the Bay County Resource Recovery Facility to process certain non-municipal waste materials. The plan is based on reviewing certified generator waste analysis forms to assure any material accepted is non-toxic, non-hazardous and comprised of the same basic components that are in MSW.

Also enclosed is Attachment A which is a specific request to process the identified pharmaceutical waste materials. These materials have been identified as available for immediate processing at the Bay facility and therefore we would appreciate your expeditious review of this request.

As soon as you have had a chance to review these materials, we will contact you to arrange a meeting and/or answer any questions.

Sincerely,



Rodger DiVincenzo

cc: D. Testa, EA
J. Leddy, Bay
J. Joseph
E. Middleswart, FLDER

**REQUEST TO PROCESS NON-MUNICIPAL WASTES
BAY COUNTY RESOURCE RECOVERY FACILITY**

AUGUST 1993

I. INTRODUCTION

The Bay County Resource Recovery Facility (BCRRF) has been issued Air Quality Permit No. A003-165754 and Solid Waste Management Permit No. 5003-221103 by the Florida Department of Environmental Regulation (FLDER).

The Solid Waste Management Permit allows the facility to process "solid waste" which includes municipal, commercial and industrial non-hazardous and non-biohazardous and non-radioactive waste products. The Air Quality Management permit limits the fuel to municipal solid waste and wood waste. To process other wastes, BCRRF must obtain approval of the FLDER Bureau of Air Quality Management.

Periodically BCRRF has been approached by commercial and industrial generators of municipal-like waste to dispose of their materials. Although not defined as municipal wastes, these materials and/or their components are generally found in the municipal waste stream; some examples are plastics, pharmaceuticals (both over-the-counter and prescriptions), consumer products, food processing residues, textiles, etc. Previously, BCRRF has requested written approval for each type of waste stream on a case-by-case basis. This document summarizes the generic type of non-hazardous, non-biohazardous and non-radioactive waste (referred to herein as non-municipal waste) that BCRRF is seeking approval to accept. This request also summarizes the documentation and recordkeeping procedures BCRRF will utilize to ensure that only those approved types of wastes are received and processed.

The ability to accept residual waste at BCRRF will not interfere with the ability of the Facility to meet its obligations under the approved Bay County Municipal Waste Management Plan. The non-municipal waste will constitute a small portion of the capacity of the BCRRF. These municipal-like wastes will constitute less than 5% of the yearly capacity of the Facility.

Before accepting any non-municipal waste for disposal, BCRRF will require that the generator provide an analysis of the waste in order for BCRRF to screen materials acceptable for processing in order to assure that the BCRRF operates in compliance with its permit. This will ensure that the facility only processes acceptable waste materials. Based on the waste screening methods proposed in this request, processing these waste will have no impact on operation of the facility or environmental emissions.

II. WASTE CHARACTERISTICS

Typical MSW

BCRRF is permitted to operate at 95.6 million Btu/hours heat input (using a higher heating value of 4,500 Btu/lb for waste and a processing rate of 510 tons per day for the facility.) The primary fuel is municipal solid waste with wood waste as auxiliary fuel.

The USEPA, Municipal and Industrial Solid Waste Division, commissioned Franklin Associates, Ltd. to characterize municipal solid waste in the United States¹. Franklin Associates utilized material flows approach to estimate the waste stream on a nationwide basis. EPA's Office of Solid Waste began to develop this method and its database in the late 1960's. The material flows methodology is based on production data for the material and products in the waste stream. Adjustments are made for imports, exports, lifetimes of products and yard wastes.

¹Franklin Associates, Ltd., Characterization of Municipal Solid Waste in the United States, 1992 Update, July 1992, U.S. Environmental Protection Agency, Municipal and Industrial Solid Waste Division, Office of Solid Waste.

Table 1 summarizes the categories of products discarded into the municipal waste stream in 1990. Note that the containers/packaging category constitutes 29% of the waste stream and is the largest single category of MSW.

TABLE 1
Categories of Products Discarded as MSW in 1990

Category	Million of Tons	Percent
Durable Goods	24.8	15.3
Nondurable Goods	43.2	26.6
Containers/Packaging	47.4	29.2
Food Waste	13.2	8.1
Yard Trimmings	30.8	19.0
Misc. Inorganic Waste	<u>2.9</u>	<u>1.8</u>
Total	162.3	100.0%

Table 2 lists the various components of the waste categories listed in Table 1. These tables show the diverse non-homogeneous mixture that constitutes MSW. Because of the heterogeneity of the waste stream, identifying a typical elemental analysis for MSW is extremely difficult.

TABLE 2		
SPECIFIC PRODUCTS DISCARDED IN 1990		
CATEGORY	MILLION OF TONS	PERCENT
DURABLE GOODS		
MAJOR APPLIANCES	1.9	1.2%
FURNITURE	7.4	4.6%
CARPETS AND RUGS	1.7	1.0%
RUBBER TIRES	1.6	1.0%
BATTERIES, LEAD ACID	0.1	NEG
MISC DURABLES	12.1	7.5%
TOTAL DURABLE GOODS	24.8	15.3%
NONDURABLE GOODS		
NEWSPAPERS	7.4	4.6%
BOOKS	0.9	0.5%
MAGAZINES	2.5	1.5%
OFFICE PAPER	4.7	2.9%
TELEPHONE BOOKS	0.5	0.3%
THIRD CLASS MAIL	3.6	2.2%
OTHER COMMERCIAL	4.5	2.7%
TISSUE PAPER AND TOWELS	3.2	2.0%
PAPER PLATES AND CUPS	0.7	0.45
PLASTIC PLATES AND CUPS	0.3	0.2%
TRASH BAGS	0.8	0.5%
DISPOSABLE DIAPERS	2.6	1.6%
OTHER NONPACKAGING PAPER	3.8	2.3%
CLOTHING AND FOOTWARE	3.6	2.2%
TOWELS AND SHEETS	1.0	0.6%
OTHER MISC NONDURABLES	3.2	2.0%
TOTAL NONDURABLE GOODS	43.2	26.6

TABLE 2		
SPECIFIC PRODUCTS DISCARDED IN 1990		
CATEGORY	MILLION OF TONS	PERCENT
CONTAINER AND PACKAGING		
GLASS PACKAGING	9.3	5.7%
STEEL PACKAGING	2.3	1.4
PAPER AND PAPERBOARD PACKAGING	20.6	12.7%
PLASTIC PACKAGING	6.7	4.1%
WOOD PACKAGING	7.5	4.6%
OTHER MISC PACKAGING	0.2	0.1%
<i>TOTAL CONTAINER AND PACKAGING</i>	<i>47.4</i>	<i>29.2%</i>
<i>FOOD WASTE</i>	<i>13.2</i>	<i>8.1</i>
<i>YARD TRIMMINGS</i>	<i>30.8</i>	<i>19</i>
<i>MISC INORGANIC WASTES</i>	<i>2.9</i>	<i>1.9</i>

Non-Municipal Waste

The BCRRF is requesting permission to accept for processing, the generic types of waste streams listed in Table 3. Table 3 lists broad categories of waste along with selected examples of the specific types of waste considered acceptable for disposal including pharmaceuticals and consumer products. These wastes will be certified to be non-hazardous, non-biohazardous and non-radioactive and the waste will be screened in accordance with the limits listed in Table 4.

The materials requested to be processed at the BCRRF are comprised of the same basic components that are in MSW. For example, one of the first kinds of waste that BCRRF is requesting to process is pharmaceuticals. The pharmaceutical waste as delivered to BCRRF will be comprised of approximately 30-50% of the specified pharmaceuticals and 50-70% packaging material. This 50-70% packaging material is the same types of packaging material identified in typical MSW listed in Table 2. Therefore, more than half of the non-municipal pharmaceutical waste will actually be MSW. The chemical composition of the remaining pharmaceuticals include both active and inactive ingredients. Most of the major inactive ingredients which are expected to dominate the waste mass include common household items such as sucrose and lactose (types of sugars), talc and magnesium stearate (dusting powder), starch and gelatin. The active ingredients (typically less than 5% of the total compound weight) are largely organic materials that are easily destroyed by the high temperature of combustion.

III. PROCESS CONSIDERATIONS

The BCRRF is requesting to process a wide range of waste streams, such as those listed in Table 3. The BCRRF combustors are designed to process a diverse mixture of waste streams and provides a sufficiently high combustion gas temperature in the combustor barrel (in excess of 1800°F) and adequate residence time to completely combust organic materials. In addition, the BCRRF is equipped with an electrostatic precipitator (ESP)

to remove more than 99% of the particulate matter from the flue gas. The operation of the facility is controlled by the Westinghouse Distributed Process Control Family (WDPF) that monitors over 200 operational parameters used to control plant operation including the combustion process. The BCRRF continuously monitors CO and opacity to assure compliance with their air quality limits. The operational records required by the permits are retained on-site.

All non-municipal waste processed at the BCRRF will be thoroughly mixed with the MSW waste stream prior to charging the waste into the combustor. The mixing of the waste streams will be done on the tipping floor except where the material would be better handled by placing directly onto the conveyor or into the hopper. This will allow the non-municipal waste components to be thoroughly mixed with the MSW. This practice will dilute any of the compounds in the non-municipal waste stream being charged to the combustor. This mixing of the waste materials will minimize the potential for the non-municipal waste to influence the air pollutant emission levels from the plant. Limiting the non-municipal waste feedrate and mixing with MSW should keep individual waste components (sulfur, chlorine, etc.) within the normal range of variation associated with typical MSW.

IV. WASTE ANALYSIS

The types of non-municipal solid wastes that BCRRF is seeking generic approval to process will be certified to be non-hazardous, non-biohazardous and non-radioactive. BCRRF will require the generator to provide this certification before any waste is accepted for disposal. This certification may come in one of three forms; (1) a non-hazardous material profile form signed by an authorized representative of the generator certifying the wastes' contents, (2) a material safety data sheet (MSDS) or (3) chemical analysis of the waste for pH, ignitability, reactivity and Toxic Characteristic Leaching Procedure (TCLP) constituents (see Table 4). This documentation will be kept on-site for each generator and waste stream type that BCRRF accepts for processing. In

addition to this documentation BCRRF will screen all non-municipal wastes with respect to their chemical composition. An example of this screening process is described in Attachment A.

Attachment A is an example of the screening process used by BCRRF for the specific case of pharmaceutical wastes and consumer products, the information includes the chemical composition, references to Merck, Fax and Lewks, and their usage. The screening also includes their MSDS where needed. BCRRF also uses the chemical composition to calculate the heating value of the waste for determining its suitability for processing, taking into account the packaging.

As part of the initial screening, BCRRF will ensure that the non-municipal waste has a chemical composition similar to that found in typical MSW. BCRRF will limit the chemical composition of the non-municipal waste so that certain constituents of environmental concern are comparable to those found in typical MSW.

These constituents of environmental concern include certain heavy metals that have been identified in MSW. Based upon a recent comprehensive evaluation of MSW waste constituents, an estimate of the amount of heavy metals found in typical MSW has been identified. These levels are listed in Table 5. BCRRF will limit the concentration of these heavy metals in non-municipal waste at or below the upper end of the range listed in Table 5. This will ensure that the loading of these constituents into the combustors will not be increased due to the processing of non-municipal waste streams.

The amount of sulfur and chlorine in the non-municipal waste streams will also be limited to ensure compliance with the permitted emission limitations for SO₂ and HCl. Based on a comprehensive evaluation, the sulfur and chlorine content of MSW can be quantified. The range of sulfur in typical MSW is approximately 0.10 to 0.32%. The range of chlorine in typical MSW is 0.1 to 1.1%. Thus, in order to maintain compliance

with SO₂ and HCl emission limits, BCRRF will limit the content of sulfur and chlorine in non-municipal waste to no more than 0.32 and 1.1 percent, respectively.

Utilizing the above mentioned screening process is a very conservative mechanism to ensure that the combustion of this non-municipal waste stream will not result in increased emissions. The conservatism of this process is based on limiting the feedrate of non-municipal waste to no more than 5% of the total waste stream fed to the combustors.

Plant operating data from the WDPF System and the Continuous Emission Monitoring (CEM) System will be collected during operation of the BCRRF when processing non-municipal waste. Data from the CEM system will be compared to permitted emission limits to insure facility compliance. Also, plant operating data will be analyzed and compared to operating data taken while processing MSW only to insure that facility operations are within acceptable ranges under typical operating modes.

**TABLE 3
GENERIC CATEGORIES OF WASTE**

1. <u>PHARMACEUTICALS</u>	<u>EXAMPLES</u>
Over the Counter Products	Vitamin drops, tablets, capsules Aspirin Allergy creams, tablets, elixir Chlorphenirmaine Maleate Cough drops and syrups Anti-acid tablets, liquids Sinus tablets, liquids Antifungal Creams
Prescription Drugs	Amoxicillin Carbamazepine Cefazolin Cyclobenzaphrine HCl tablets Gantrez 955 Guaifenesin Quinidine
2. <u>COSMETICS/HEALTH CARE PRODUCTS</u>	Hand creams Lip gels Mouthwashes Ovulation test kits Toothpaste Denture cleansers
3. <u>FOOD RELATED INGREDIENTS/ RAW MATERIALS</u>	Flour Milk protein Aloe Bees Wax Borax Corn bran, starch Cottonseed oil Dried fruit pieces Egg whites, dry Fructose Guar gum Rice Nuts

TABLE 3 (continued)

4. <u>FOOD CONSUMER PRODUCTS</u>	Breathsaver mints Candy Chewing gum Chocolate Marshmallow
5. <u>INDUSTRIAL PROCESSING RESIDUES</u>	Leather Rubber, Elastomer Paper, Cardboard Polyethylene, Polystyrene Polyurethane and other non- halogenated plastics Textile wastes including yarn, fabric and fiber Foam, packaging, shipping and container materials Labeling materials Paper products Wood Products Corrugated Cardboard

Table 4
Maximum Allowable Levels

<u>Parameter</u>	<u>Maximum Allowable Level</u>
Flash Point (ignitability)	Per 40 CFR 261.21
pH (corrosivity)	Per 40 CFR 261.22
Paint Filter Test	PASS
Reactivity	Per 40 CFR 261.23
TCLP Metals and organics (in extraction fluid):	Per 40 CFR 261.24

Table 5
Estimated Range of Metals in Typical MSW

<u>Metal</u>	<u>Amount of Metal in MSW (%)</u>	
As	0.00039	0.0013
Be	0.00016	0.00030
Cd	0.00038	0.0143
Cr	0.0076	0.011
Hg	0.000053	0.00014
Ni	0.0012	0.0021
Pb	0.013	0.019

Reference: Rigo, H.G. et al. Debunking Some Myths About Metals. Presented at the EPA Municipal Solid Waste Combustion Conference, Williamsburg, VA, March 1993.

ATTACHMENT A

**Request and Analysis for Processing
Pharmaceutical and Consumer Product Wastes**

Bay County Resource Recovery Facility

1.0 INTRODUCTION

The BCRRF is requesting permission to accept for processing waste pharmaceuticals consumer products. The compositions and amounts of these materials have been reviewed by BCRRF and are consistent with our non-municipal waste processing plan.

The pharmaceutical and consumer product waste as delivered to BCRRF will be comprised of approximately 30-50% of the specified product and 50-70% packaging material. This 50-70% packaging material is the same types of packaging material identified in typical MSW. Therefore, more than half of the non-municipal pharmaceutical and consumer product waste will actually be MSW. The chemical composition of the remaining products include both active and inactive ingredients. Most of the major inactive ingredients which are expected to dominate the waste mass include common household items such as sucrose and lactose (types of sugars), talc and magnesium stearate (dusting powder), starch and gelatin. The active ingredients (typically less than 5% of the total compound weight) are largely organic materials that are easily destroyed by the high temperature of combustion. In addition, these pharmaceuticals and consumer products contain no mercury, lead, or cadmium.

2.0 WASTE SCREENING PROCESS

Each constituent of the pharmaceutical and consumer product waste stream was reviewed in the following manner:

1. A waste characterization sheet was completed by the generator showing chemical composition, packaging and shipment containers, handling or safety requirements, physical properties and MSDS information.
2. BCRRF reviewed this information to assure that the waste streams were not hazardous or toxic by any state or federal laws.

3. BCRRF also reviewed the chemical composition sheets to assure that the inorganic metal levels and halogen levels were below levels found in typical MSW as outlined in our Non-Municipal Waste Processing Plan.

Review of these pharmaceutical and consumer products showed that they contained no mercury, lead or cadmium.

3.0 PHARMACEUTICAL AND CONSUMER PRODUCT WASTES

Table 1 provides a listing of the types of pharmaceutical and consumer products for which waste characterization sheets have been received and reviewed. Appendix A contains completed waste material profile and characterization sheets for four of the materials that will comprise the bulk of any shipments. The waste profile and characterization sheets for the other specific pharmaceuticals and consumer products are available at the BCRRF for review, if required.

Review of the waste profile and characterization forms showed these materials to be non-toxic and non-hazardous. The amounts of inorganic metals and halogen compounds are less (in this waste) than is found in typical MSW as outlined in our Non-Municipal Waste Processing Plan. In addition, these pharmaceuticals and consumer products contain no mercury, lead or cadmium compounds.

Since more than half of the pharmaceutical and consumer product waste stream is expected to be made up of packaging material typically found in regular MSW, the processing rate of the pharmaceutical and consumer product agents should be an extremely small part of the total waste feedrate to the combustors. Also, a major portion of the active ingredients in pharmaceuticals and consumer products are common household items such as sugar, talc, starch, and gelatin.

All pharmaceutical and consumer product waste processed at the BCRRF will be thoroughly mixed with the MSW waste stream prior to charging the waste into the combustor. The mixing of the waste streams will be done on the tipping floor except where the material would be better handled by placing directly onto the conveyor or into the hopper. This will allow the waste components to be thoroughly mixed with the MSW. This mixing of the waste materials will minimize the potential for the pharmaceutical and consumer product wastes to influence the air pollutant emission levels from the plant. Limiting the pharmaceutical and consumer product waste feedrate and mixing with MSW should keep individual waste components (sulfur, chlorine, etc.) within the normal range of variation associated with typical MSW.

**TABLE 1
GENERIC CATEGORIES OF WASTE**

1. <u>PHARMACEUTICALS</u>	<u>EXAMPLES</u>
Over the Counter Products	Vitamin drops, tablets, capsules Aspirin Allergy creams, tablets, elixir Chlorpheniramine Maleate Cough drops and syrups Anti-acid tablets, liquids Sinus tablets, liquids Antifungal Creams
Prescription Drugs	Amoxicillin Carbamazepine Cefazolin Cyclobenzaprine HCl tablets Gantrez 955 Guaifenesin Quinidine
2. <u>COSMETICS/HEALTH CARE PRODUCTS</u>	Hand creams Lip gels Mouthwashes Ovulation test kits Toothpaste Denture cleansers
3. <u>FOOD RELATED INGREDIENTS/ RAW MATERIALS</u>	Flour Milk protein Aloe Bees Wax Borax Corn bran, starch Cottonseed oil Dried fruit pieces Egg whites, dry Fructose Guar gum Rice Nuts

TABLE 1 (continued)

4. FOOD CONSUMER PRODUCTS

Breathsaver mints
Candy
Chewing gum
Chocolate
Marshmallow

APPENDIX A

Example Waste Material Profile and

Characterization Forms - Pharmaceutical and Consumer Products



NON-HAZARDOUS MATERIAL PROFILE SHEET

Profile No. 1079

I. Customer Information

Generator: WARNER-LAMBERT CO Broker: JAMES ENVR TECH INC
 Address: 175 TABOR RD Address: 3 SOUTH HILLSIDE DR
MORRIS PLAINS NJ 07950 BUDD LAKE NJ 07828
 Phone # 01 540-7111 Contact: SEIERIED Phone # 01 691-2861 Contact: F. JAMES
 EPA ID#: NJD 980 768 600

II. Material Description/Origin

A. Material Name TUCKS PADS C. Reason for Disposal
 Out of Spec Low Value Waste
 Expired Other QA REJECT
 Contaminated _____ (Contaminant)

Waste is hazardous Yes No
 Waste is toxic Yes No

B. Origin D. Physical Form
 Raw Material Intermediate Product Solid Powder Liquid Semi-solid
 Finished Product Production Waste
 Package Insert Yes No
 Description of Process Generating Waste
MANUFACTURING
RETURN GOODS

Minimum % Solids _____ Particle size _____
 Stratified Yes No
 Homogenous Yes No
 Free Standing Liquids Yes No
 Sample Yes No

III. Packaging/Shipping

A. Material Package D. Shipping Container
 Plastic, Polymer Composition JAR/METAL LID Box Bulk Solid
 Foil Paper Other BULK Drum Other FIBRE DRUM
 Volume/weight per Container 25-50#
 Unfilled Package Weight _____

B. Volume per Package

C. Desired Disposal Schedule E. Proper DOT Shipping Name N/A
 One Time Periodic (specify) 2 MONTHS
 Amount per Shipment 200 #

F. DOT Hazard Class N/A

IV. Chemical Characteristics

A. Chemical Composition (w/%)	B. Total Metals (ppm) (include all TCLP Metals)	C. Physical Properties
<u>SEE ATTACHED</u> _____ %	_____	_____ pH _____ Viscosity (cp)
_____ %	_____	_____ Boiling Point (°F)
_____ %	_____	_____ Melting Point (°F)
_____ %	_____	_____ Ignition Point (°F)
_____ %	_____	_____ Density (lb/ft')
_____ %	_____	_____ Flash Point (°F)
_____ %	_____	<u>N/A</u> % Free Liquid
Total (100%) _____ %	_____	_____ Heating Value (BTU/lb)

D. Total Inorganics (w/%)

Chlorine 0 Bromine 0 Iodine 0
 Fluoride 0 Sulfur 0 Cyanide 0 Nitrogen 0

E. Attached Waste Analysis

Yes No

V. Safety Issues

A. Attach MSDS for material
 B. Describe any special handling or storage requirements

VI. Current Disposal Method

Municipal Landfill Non-Hazardous Incinerator
 Hazardous Waste Landfill Hazardous Incinerator

VII. Certification

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I further certify that the material is non-hazardous and poses no serious public safety nor health threat.

Signature: [Signature] Name (print): FX JAMES Title: CONSULTANT Date: 7/21/93

Tucks Pads

Characteristic of Waste:

White cotton pads, saturated with solution listed below
Plastic jar with metal lid or foil packs repacked in fiber cartons or drums

Chemical Composition of Waste:

Witch hazel (Hamamelis) CAS 68916-39-2
50% of solution
Dried leaves of Hamamelis virginiana, Hamamelidaceae, collected in autumn
Ther Cat: astringent
Merck 4490, page 664
Sax and Lewis WCB000, page 3490
A mild irritant, combustible when exposed to heat or flame, can react with oxidizing materials

Water H₂O MW: 18 CAS 7732-18-5
40% of solution
Merck 9853, page 930
Sax and Lewis WAT259, page 3487

Glycerin C₃H₈O₃ MW: 98.1 CAS 56-81-5
9% of solution
Ther Cat: pharmaceutical aid - humectant solvent
Merck 4347, page 664
Sax and Lewis GGA000, page 1810
When heated to decomposition emits acrid smoke and fumes

Sodium citrate C₆H₅Na₃O₇ MW: 258.1 CAS 55049-48-4
0.3% of solution
Ther Cat: alkalizer, diuretic, expectorant, sudorific, invitro anticoagulant
Merck 8435, page 1233
Sax and Lewis SFX725, page 3056
When heated to decomposition it emits toxic fumes of Na₂O

Citric Acid C₆H₈O₇ MW: 192.1 CAS 77-92-9
0.3% of solution
Ther Cat: component of anticoagulant citrate
Merck 2297, page 330
Sax and Lewis CMS750, page 725
When heated to decomposition it emits acid smoke and irritating fumes

Benzalkonium chloride
0.3% of solution
Ther Cat: topical anti-infective
Merck 1055, page 150
Sax and Lewis BBA500, page 356
A severe eye irritant, a bactericide and fungicide, when heated to decomposition it emits toxic fumes of Cl⁻ and NO_x

Methylparaben $C_8H_8O_3$ MW: 152.1

0.1% of solution

Preservative in foods, beverages and cosmetics

Merck 5977, page 874



NON-HAZARDOUS MATERIAL PROFILE SHEET

I. Customer Information

Profile No. 1060

Generator: WARNER-LAMBERT CO
 Address: 175 TABOR RD
MORRIS PLAINS NJ 07950
 Phone # 01 540-7111 Contact C SEIFRIED
 EPA ID#: NJD 980 768 600

Broker: JAMES ENVR TECH INC
 Address: 3 SOUTH HILLSIDE DR
BUDD LAKE NJ 07828
 Phone # 01 691-2861 Contact F JAMES

II. Material Description/Origin

A. Material Name TACLINE HCL

C. Reason for Disposal

Waste is hazardous Yes No
 Waste is toxic Yes No

Out of Spec Low Value Waste
 Expired Other QA RETRY
 Contaminated _____ (Contaminant)

B. Origin

Raw Material Intermediate Product
 Finished Product Production Waste
 Package Insert Yes No
 Description of Process Generating Waste
MANUFACTURING
CLINICAL DEVELOPMENT

D. Physical Form NEEDLES

Solid Powder Liquid Semi-solid
 Minimum % Solids _____ Particle size _____
 Stratified Yes No
 Homogenous Yes No
 Free Standing Liquids Yes No
 Sample Yes No

III. Packaging/Shipping

A. Material Package
 Plastic, Polymer Composition _____
 Foil Paper Other BULK

D. Shipping Container

Box Bulk Solid
 Drum Other FIBRE DRUM
 Volume/weight per Container 50#
 Unfilled Package Weight _____

B. Volume per Package

C. Desired Disposal Schedule
 One Time Periodic (specify) 4 MONTHS
 Amount per Shipment 100#

E. Proper DOT Shipping Name N/A
 F. DOT Hazard Class N/A

IV. Chemical Characteristics

A. Chemical Composition (w/w)

SEE ATTACHED _____ %
 _____ %
ACTIVE INGREDIENT _____ %
IN COGNCP _____ %
 _____ %
 _____ %
 _____ %
 Total (100%) _____ %

B. Total Metals (ppm)
 (Include all TCLP Metals)

C. Physical Properties

_____ pH _____ Viscosity (cp)
 _____ Boiling Point (°F)
 _____ Melting Point (°F)
 _____ Ignition Point (°F)
 _____ Density (lb/ft')
N/A Flash Point (°F)
N/A % Free Liquid
 _____ Heating Value (BTU/lb)

D. Total Inorganics (w/w)

Chlorine 10% Bromine 0 Iodine 0
 Fluoride 0 Sulfur 0 Cyanide 0 Nitrogen 0

E. Attached Waste Analysis

Yes No

V. Safety Issues

A. Attach MSDS for material

B. Describe any special handling or storage requirements

VI. Current Disposal Method

Municipal Landfill Non-Hazardous Incinerator
 Hazardous Waste Landfill Hazardous Incinerator

VII. Certification

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I further certify that the material is non-hazardous and poses no serious public safety nor health threat.

Signature James FX JAMES Name (print) CONSULTANT Title 7/20/93 Date

Tacine

Characteristic of Waste:

Yellow needles from concentrated hydrochloric acid, bitter taste; soluble in water
Active ingredient in Cognex
Fiber cartons or drums

Chemical Composition of Waste:

Tacrine hydrochloride $C_{13}H_{14}N_2HCl$ MW: 234.5

5.1 % of composition

Ther Cat: anticholinesterase, respiratory stimulant

Merck 8907, page 1298

Lactose $C_{12}H_{22}O_{11}$ MW: 342.3

60.4 % of composition

Ther Cat: pharmaceutical aid; tablet and capsule diluent

Merck 5180, page 769

Sax and Lewis LAR000, page 2088

When heated to decomposition emits acrid smoke and irritating fumes

Microcrystalline Cellulose $(C_6H_{10}O_5)_n$

34 % of composition

Ther Cat: stabilizer, thickener, texturizer

Merck 1925, page 273

Magnesium stearate $C_{36}H_{70}MgO_4$ MW: 591.3

0.5 % of composition

Used in baby dusting powders; as tablet lubricant

Merck 5512, page 812



NON-HAZARDOUS MATERIAL PROFILE SHEET

I. Customer Information

Profile No. 0524

Generator: WARNER-LAMBERT CO
 Address: 175 TABOR RD
MORRIS PLAINS NJ 07950
 Phone # 201 540-7111 Contact: C SEIFRIED
 EPA ID#: NJD 980 768 600

Broker: JAMES ENVR TECH INC
 Address: 3 SOUTH HILLSIDE DR
BUDD LAKE NJ 07828
 Phone # 201 691-2861 Contact: F JAMES

II. Material Description/Origin

A. Material Name METHYLDOPA TABLETS

C. Reason for Disposal

Waste is hazardous Yes No
 Waste is toxic Yes No

Out of Spec Low Value Waste
 Expired Other QA REJECT
 Contaminated _____ (Contaminant)

B. Origin

Raw Material Intermediate Product
 Finished Product Production Waste
 Package Insert Yes No
 Description of Process Generating Waste
MANUFACTURING
CLINICAL DEVELOPMENT

D. Physical Form

Solid Powder Liquid Semi-solid
 Minimum % Solids _____ Particle size _____
 Stratified Yes No
 Homogenous Yes No
 Free Standing Liquids Yes No
 Sample Yes No

III. Packaging/Shipping

A. Material Package
 Plastic, Polymer Composition BLISTERS
 Foil Paper Other POLY BOTTLES
BULK
 B. Volume per Package _____

D. Shipping Container
 Box Bulk Solid
 Drum Other FIBRE DRUM
 Volume/weight per Container 25-50#
 Unfilled Package Weight _____

C. Desired Disposal Schedule
 One Time Periodic (specify) 6 MONTHS
 Amount per Shipment 100 #

E. Proper DOT Shipping Name N/A
 F. DOT Hazard Class N/A

IV. Chemical Characteristics

A. Chemical Composition (w%)
SEE ATTACHED _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 Total (100%) _____ %

B. Total Metals (ppm)
 (Include all TCLP Metals)

C. Physical Properties
 _____ pH _____ Viscosity (cp)
 _____ Boiling Point (°F)
 _____ Melting Point (°F)
 _____ Ignition Point (°F)
 _____ Density (lb/ft³)
N/A Flash Point (°F)
N/A % Free Liquid
 _____ Heating Value (BTU/lb)

D. Total Inorganics (w%)
 Chlorine 0 Bromine 0 Iodine 0
 Fluoride 0 Sulfur 0 Cyanide 0 Nitrogen 0

E. Attached Waste Analysis
 Yes No

V. Safety Issues

- A. Attach MSDS for material
 B. Describe any special handling or storage requirements

VI. Current Disposal Method

- Municipal Landfill Non-Hazardous Incinerator
 Hazardous Waste Landfill Hazardous Incinerator

VII. Certification

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I further certify that the material is non-hazardous and poses no serious public safety nor health threat.

Signature [Signature] Name (print) FX JAMES Title CONSULTANT Date 7/6/93

Methyldopa

Characteristic of Waste:

Blue odorless tablets or granulation
Antihypertensive
Blister pack/plastic bottles repacked in cartons or drums

Chemical Composition of Waste:

Methyldopa $C_{10}H_{13}NO_4$ MW: 211.2
78.3 % of composition
Ther Cat: antihypertensive
Merck 5928, page 867

Cellulose $(C_5H_{10}O_5)_n$
15.7 % of composition
Ther Cat: stabilizer, thickener, texturizer
Merck 1925, page 273

Starch $(C_6H_{10}O_5)_n$
4.7 % of composition
Ther Cat: pharmaceutical aid - tablet disintegrate filler,
binder
Merck 8650, page 1258
Sax and Lewis SLJ500, page 3112
A nuisance dust, an allergen, flammable when exposed to
flame

Edetate disodium $C_{10}H_{14}N_2Na_2O_8$ MW: 336.2
0.27 % of composition
Ther Cat: chelating agent
Merck 3487, page 508

Silicon dioxide SiO_2 MW: 60.1
0.03 % of composition
Ther Cat: anticaking and defoaming agent
Merck 8329, page 1220

Stearic acid $C_{18}H_{36}O_2$ MW: 284.5
1.00 % of composition
Ther Cat: coating agent
Merck 8654, page 1258



NON-HAZARDOUS MATERIAL PROFILE SHEET

I. Customer Information

Profile No. 0525

Generator: WARNER-LAMBERT CO
 Address: 175 TABOR RD
MORRIS PLAINS NJ 07950
 Phone # 201 540-7111 Contact: SEIFRIED
 EPA ID#: NJD 980 768 600

Broker: JAMES ENVR TECH INC
 Address: 3 SOUTH HILLSIDE DR
BUDD LAKE NJ 07828
 Phone # 201 691-2861 Contact: F JAMES

II. Material Description/Origin

A. Material Name METHYLOPA GRANULATION

C. Reason for Disposal
 Out of Spec Low Value Waste
 Expired Other _____
 Contaminated _____ (Contaminant)

Waste is hazardous Yes No
 Waste is toxic Yes No

B. Origin

Raw Material Intermediate Product
 Finished Product Production Waste
 Package Insert Yes No
 Description of Process Generating Waste
MANUFACTURING
CLINICAL DEVELOPMENT

D. Physical Form

Solid Powder Liquid Semi-solid
 Minimum % Solids _____ Particle size _____
 Stratified Yes No
 Homogenous Yes No
 Free Standing Liquids Yes No
 Sample Yes No

III. Packaging/Shipping

A. Material Package
 Plastic, Polymer Composition _____
 Foil Paper Other BULK

D. Shipping Container
 Box Bulk Solid
 Drum Other FIBRE DRUM
 Volume/weight per Container 50-100#
 Unfilled Package Weight _____

B. Volume per Package _____

C. Desired Disposal Schedule
 One Time Periodic (specify) 6 MONTHS
 Amount per Shipment 100#

E. Proper DOT Shipping Name N/A
 F. DOT Hazard Class N/A

IV. Chemical Characteristics

A. Chemical Composition (w%)
SEE # 0524 _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 _____ %
 Total (100%) _____ %

B. Total Metals (ppm)
 (Include all TCLP Metals)

C. Physical Properties
 _____ pH _____ Viscosity (cp)
 _____ Boiling Point (°F)
 _____ Melting Point (°F)
 _____ Ignition Point (°F)
 _____ Density (lb/ft³)
 _____ Flash Point (°F)
N/A % Free Liquid
 _____ Heating Value (BTU/lb)

D. Total Inorganics (w%)

Chlorine 0 Bromine 0 Iodine 0
 Fluoride 0 Sulfur 0 Cyanide 0 Nitrogen 0

E. Attached Waste Analysis
 Yes No

V. Safety Issues

A. Attach MSDS for material
 B. Describe any special handling or storage requirements

VI. Current Disposal Method

Municipal Landfill Non-Hazardous Incinerator
 Hazardous Waste Landfill Hazardous Incinerator

VII. Certification

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I further certify that the material is non-hazardous and poses no serious public safety nor health threat.

Signature [Signature] Name (print) FX JAMES Title CONSULTANT Date 7/6/93

Methyldopa

Characteristic of Waste:

Blue odorless tablets or granulation
Antihypertensive
Blister pack/plastic bottles repacked in cartons or drums

Chemical Composition of Waste:

Methyldopa $C_{10}H_{13}NO_4$ MW: 211.2
78.3 % of composition
Ther Cat: antihypertensive
Merck 5928, page 867

Cellulose $(C_6H_{10}O_5)_n$
15.7 % of composition
Ther Cat: stabilizer, thickener, texturizer
Merck 1925, page 273

Starch $(C_6H_{10}O_5)_n$
4.7 % of composition
Ther Cat: pharmaceutical aid - tablet disintegrate filler,
binder
Merck 8650, page 1258
Sax and Lewis SLJ500, page 3112
A nuisance dust, an allergen, flammable when exposed to
flame

Edetate disodium $C_{10}H_{14}N_2Na_2O_8$ MW: 336.2
0.27 % of composition
Ther Cat: chelating agent
Merck 3487, page 508

Silicon dioxide SiO_2 MW: 60.1
0.03 % of composition
Ther Cat: anticaking and defoaming agent
Merck 8329, page 1220

Stearic acid $C_{18}H_{36}O_2$ MW: 284.5
1.00 % of composition
Ther Cat: coating agent
Merck 8654, page 1258

Attachment 2



Westinghouse
Electric Corporation
Division of Environmental
Resources Management

RECEIVED
AUG 31 1993

R E S D

1501 Ardmore Boulevard
Pittsburgh Pennsylvania 15221

August 30, 1993

Mr. Preston Lewis
FL Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Mr. Lewis:

Enclosed is the additional information you requested during your conversation with Mr. Jerry Joseph on August 17, 1993.

Attachment A provides metal emission test data from the Bay County Resource Recover Facility (BCRRF) and other Municipal Waste Combustors (MWCs) equipped with electrostatic precipitators (ESP). As shown in the attachment the BCRRF emission data compares favorable to those levels observed at other facilities. Please note that these emission data points are the actual tested levels and not the permitted levels.


Attachment B provides a rough mass balance estimate of the amount of inorganic metals in MSW using measured emission data for both flue gas and combined bottom and fly ash. These estimated metal concentrations concur with the data previously submitted. (Table 5 of our August 12, 1993 submittal.)

In reviewing data on metal concentrations in MSW and flue gas, we are not aware of any valid test data whereby flue gas emissions could be accurately predicted based on incoming MSW metal content. However, for processing a specific non-municipal waste (such as the pharmaceuticals) that may be more homogeneous than MSW, BCRRF can require that inorganic metal concentrations will be at or below the upper ranges listed in Attachment B. Therefore by limiting the incoming metal concentrations in these

Mr. Preston Lewis
August 30, 1993
Page 2

non-municipal waste streams there will not be any increase in emission levels of these compounds as compared to processing "typical MSW". In addition, for the case of the pharmaceuticals and consumer products, these analyses have shown that they would contain no mercury, lead or cadmium.

We are planning to be in the Bay County area the week of September 6, 1993 and would like to set-up a meeting with you to discuss this issue. We will contact you shortly to set a date. In the meantime, if you have any questions, please do not hesitate to contact me at (412) 247-6425.



Rodger D. DiVincenzo
Resource Energy Systems

/tlb

ATTACHMENT A

**METAL EMISSION LEVELS FOR
MUNICIPAL WASTE COMBUSTORS
EQUIPPED WITH ESP'S**

Attached is Tables A-1 showing the stack metal emission levels from the BCRRF and Table A-2 which provides metal emission levels from other MWCs equipped with an Electrostatic Precipitator (ESP). The BCRRF data was obtained from compliance tests required by the permit; while the data in Table A-2 was obtained from the EPA document "Compilation of Air Pollutant Emission Factors" (AP-42), September 1992.

Also included are graphs of these data showing how the BCRRF test data compares to other facilities equipped with ESP's per each metal. As can be seen, the emission test levels from BCRRF are within the range of emission levels measured at other similarly controlled facilities.

Table A-1
 Bay County Resource Recovery Facility
 Metal Emission Test Data

POLLUTANT	ug/dscm @ 7% O2
As	4.7
As	5.9
As	8.6
As	4.9
Be *	4.45E-04
Be *	4.30E-04
Be *	4.06E-04
Be *	4.49E-04
Be *	4.48E-04
Be *	2.89E-02
Cd	14.6
Cd	18.9
Cd	51.8
Cd	17.6
Hg *	351.9
Hg *	328.5
Hg *	236.6
Hg *	305.6
Hg *	155.9
Hg *	252.0
Hg *	164.0
Hg *	192.3
Hg *	282.3
Hg *	440.9
Ni	0.8
Ni	1.4
Ni	5.6
Ni	4.3
Pb *	224.1
Pb *	280.6
Pb *	730.6
Pb *	293.1
Pb *	120.6
Pb *	296.6
Pb *	547.4
Pb *	565.0
Pb *	584.5
Pb *	669.0

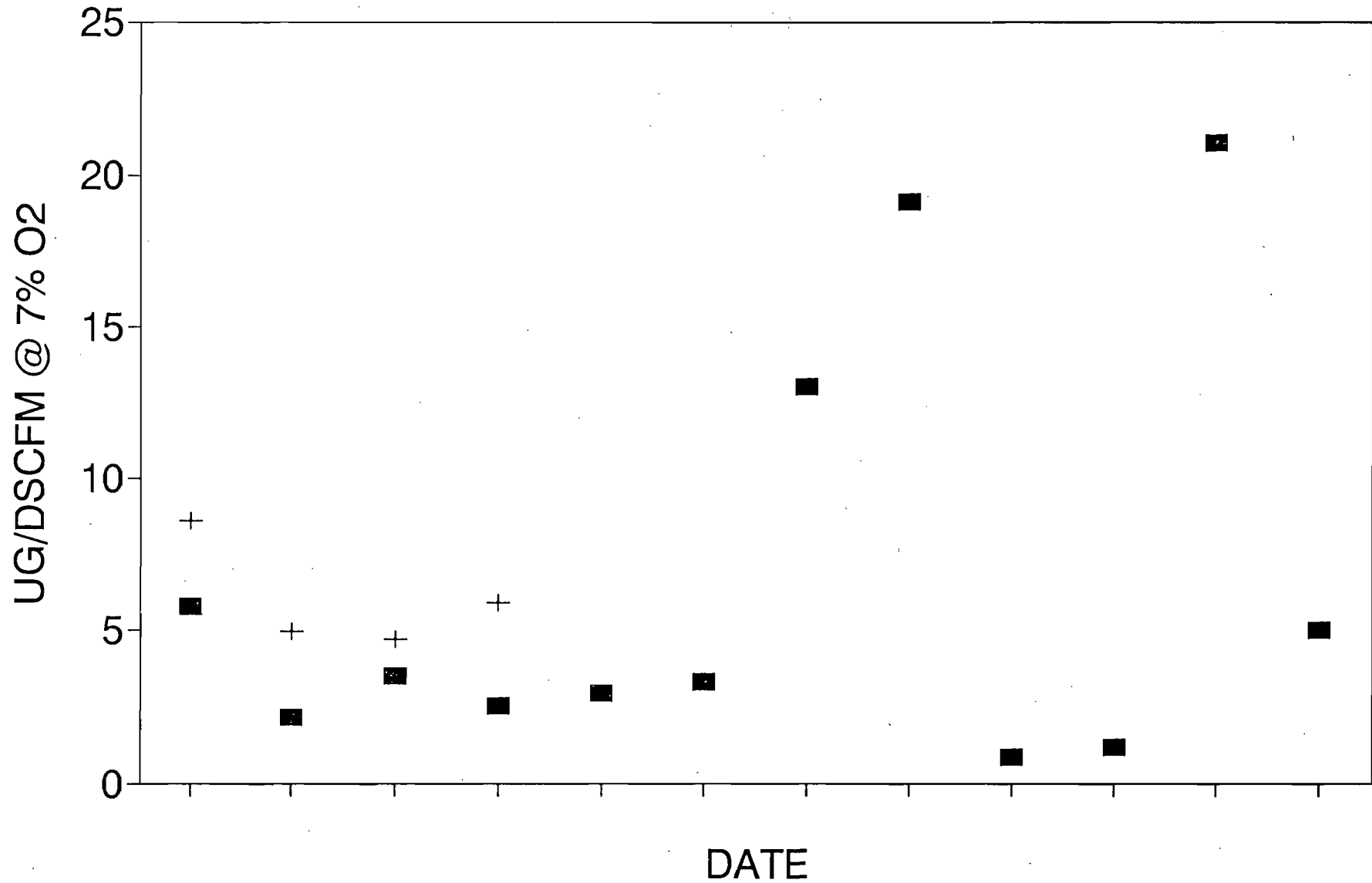
* PERMIT LIMITS:

Pollutant	ug/dscm @ 7% O2
Be	4.67E-02
Hg	1680.8
Pb	933.8

Table A-2
Metal Emission Test Data For Municipal Waste Combustors
with Electrostatic Precipitators

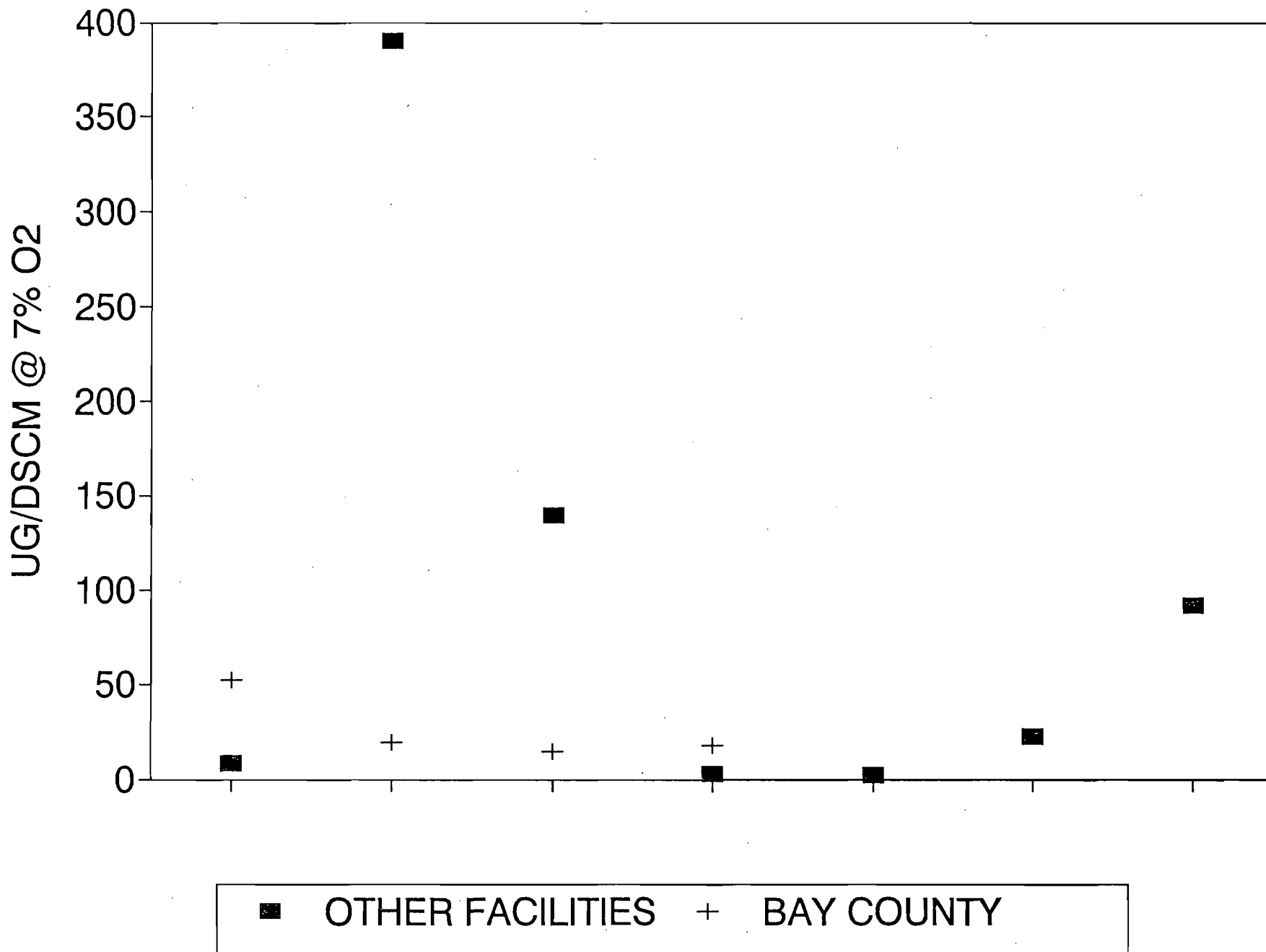
FACILITY	Metal Emissions (ug/dscm @ 7% O2)				
	As	Cd	Hg	Ni	Pb
ALBANY	19.10				
BALTIMORE RESCO	5.80				
BARRON COUNTY	21	22			270
DAYTON	2.94	3.00	1150	2.74	530
DAYTON	2.51	1.90	1020	5.63	560
HILLSBOROUGH			823		320
NSP RED WING	13.00		194	34.0	
NSP RED WING	3.30		653	129	
ONEIDA COUNTY	5.03	92	2060	125	430
PEEKSKILL	2.17				
PIGEON POINT	0.833		363	43.9	150
PINELLAS COUNTY	3.50	8.00	847	2.38	150
POPE/DOUGLAS	1.15		133		
TULSA		140.00	711		410
TULSA		390.00	466		
TULSA			746		
TULSA			600		
TULSA			97		
TULSA			1000		
TULSA			418		

ARSENIC EMISSIONS

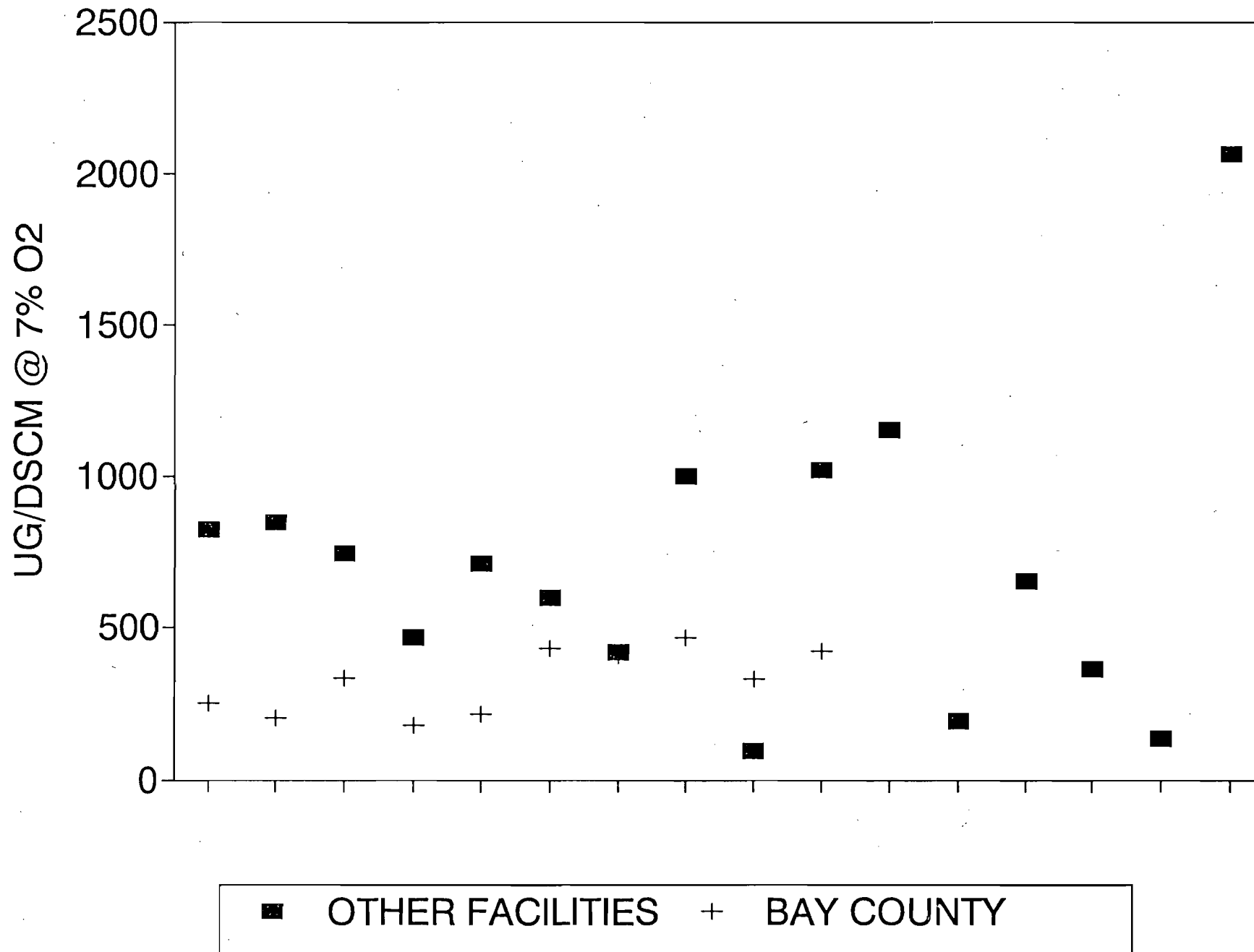


■ OTHER FACILITIES + BAY

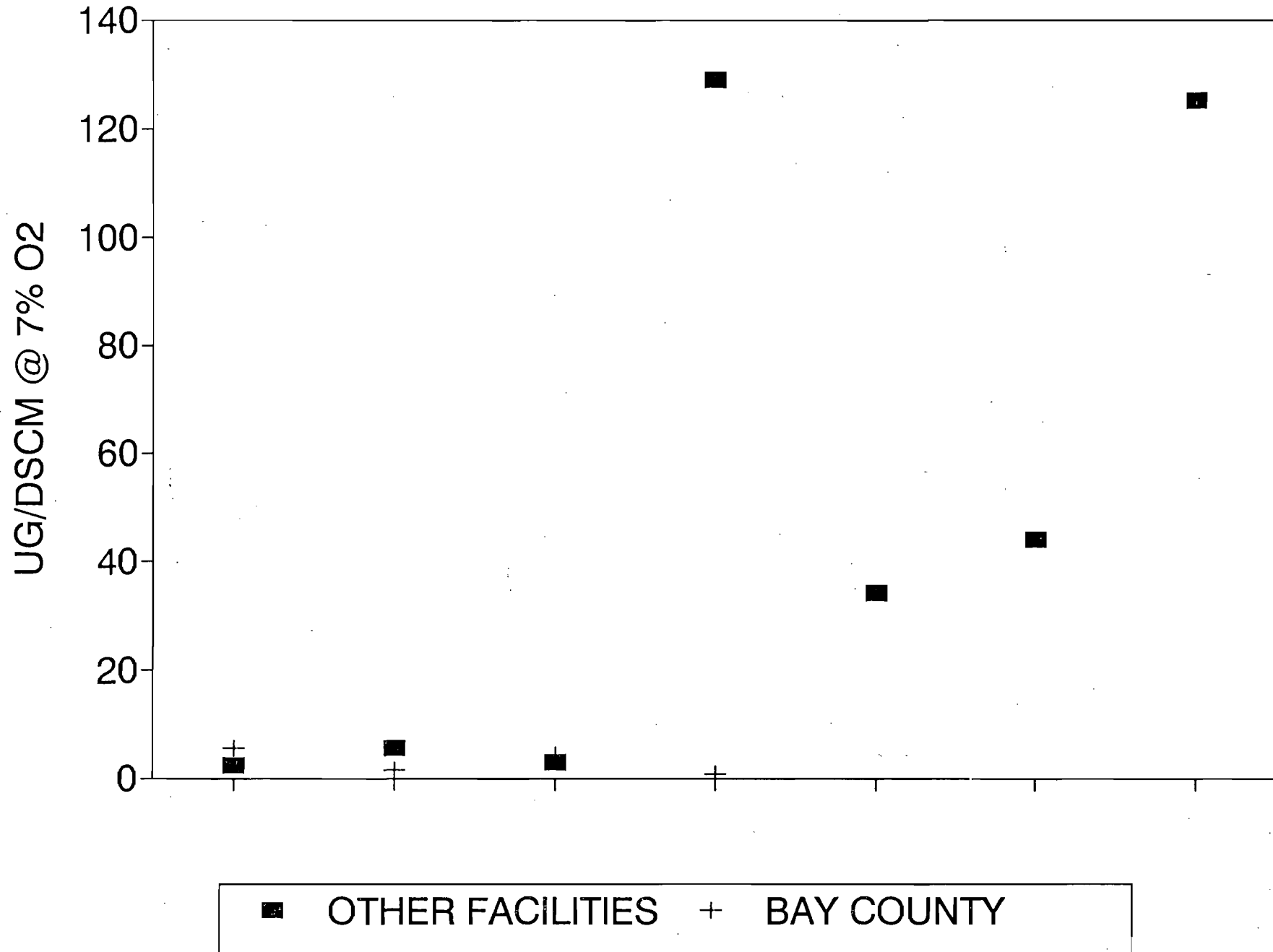
CADMIUM EMISSIONS



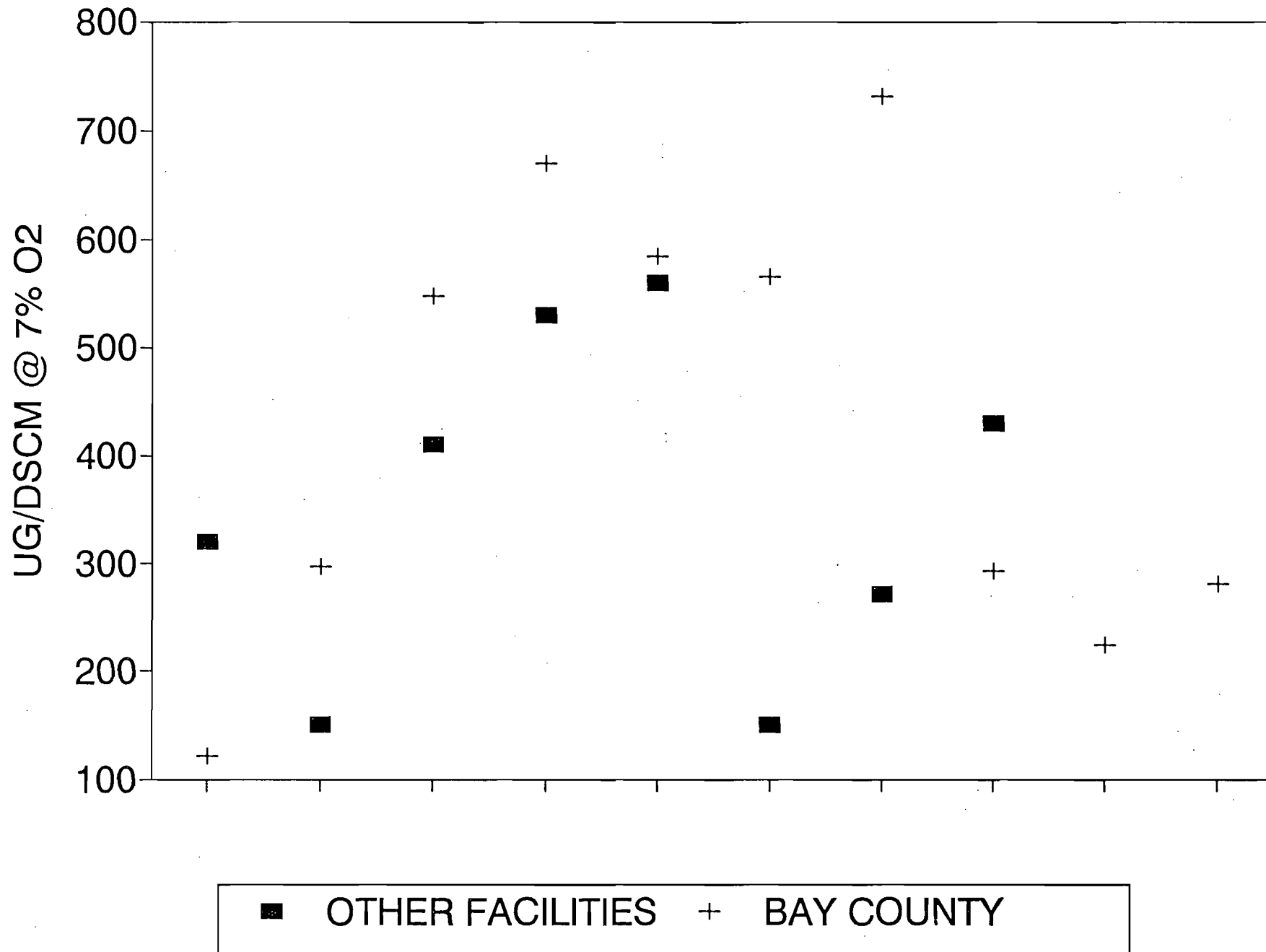
MERCURY EMISSIONS



NICKEL EMISSIONS



LEAD EMISSIONS



ATTACHMENT B

METAL LEVELS IN TYPICAL MUNICIPAL SOLID WASTE (MSW)

In our letter dated August 17, 1993 we provided data from a study that estimated "typical" concentrations of inorganic metals in MWCs. As a follow-up, we are providing additional data to try and perform a second estimate of the range of metals that could be found in typical MSW. Table B-1 provides an estimate of these typical concentrations of inorganic metals in MSW utilizing flue gas emission factors and metal concentrations in combined bottom ash and fly ash. In compiling this table we are providing a "rough" mass-balance estimate of the incoming metal concentration in MSW by utilizing test data on both the solid and gas emission streams.

In Table B-1, a percentage range of metals in MSW was estimated by adding the flue gas emission factor (uncontrolled) for a particular metal to the range of concentrations of that metal observed in combined MSW ash. The metal flue gas emission estimates were obtained from EPA's recently updated data base for AP-42 "Compilation of Air Pollutant Emission Factors". These emission factors are based on uncontrolled concentration levels for mass burn and modular excess air MWCs. The concentration of metals in combined ash were obtained from an MWC ash characterization study conducted for EPA and referenced in Table B-1.

The metal in MSW concentrations in Table B-1 are consistent with the ranges that were provided in our August 17, 1993 submission; and are reproduced in Table B-2.

As stated in our August 1993 submittal, any non-municipal waste that BCRRF will accept will be certified to contain the ranges listed in Table B-2 or less.

TABLE B-1

Compound	Metals in Flue Gas ¹ lbs/ton MSW	Ash ² lbs/ton MSW ³	Total Range	
			lb/ton	%
Arsenic (As)	4.37x10 ³	1.74x10 ⁻³ - 1.37x10 ⁻²	1.74x10 ⁻³ - 1.78x10 ⁻²	8.7x10 ⁻⁵ - 8.89x10 ⁻⁴
Cadmium (Cd)	1.09x10 ⁻²	4.68x10 ⁻³ - 2.7x10 ⁻²	4.68x10 ⁻³ - 3.79x10 ⁻²	2.34x10 ⁻⁴ - 1.9x10 ⁻³
Chromium (Cr)	8.97x10 ⁻³	7.2x10 ⁻³ - 1.99x10 ⁻¹	7.2x10 ⁻³ - 2.09x10 ⁻¹	3.6x10 ⁻⁴ - 1.05x10 ⁻²
Mercury (Hg)	5.6x10 ⁻³	6.6x10 ⁻⁵ - 5.22x10 ⁻³	6.6x10 ⁻⁵ - 1.08x10 ⁻²	3.3x10 ⁻⁶ - 5.4x10 ⁻⁴
Nickel (Ni)	7.85x10 ⁻³	7.8x10 ⁻³ - 3.34x10 ⁻¹	7.8x10 ⁻³ - 1.71x10 ⁻²	3.9x10 ⁻⁴ - 1.71x10 ⁻²
Lead (Pb)	2.13x10 ⁻¹	1.55x10 ⁻¹ - 7.92	1.55x10 ⁻¹ - 8.13	7.55x10 ⁻³ - 4.06x10 ⁻¹

¹ From "Compilation of Air Pollutant Emission Factors". AP-42 update 7/93.

² "Characterization of Municipal Waste Combustor Ashes and Leachate from Municipal Solid Waste Landfills, Monofils, and Co-Disposal Sites" U.S. EPA September 1987.

³ In the study, metal ranges were given in percent of combined ash. A conversion factor of 600 lbs. of ash produced per ton MSW burned was used to convert to units of lbs. of metals per ton of MSW.

**TABLE B-2
ESTIMATED RANGE OF METALS IN TYPICAL MSW**

Metal	Amount of Metal in MSW (%)*	
	Reference 1	Reference 2
As	$3.9 \times 10^{-4} - 1.3 \times 10^{-3}$	$8.7 \times 10^{-5} - 8.89 \times 10^{-4}$
Be	$1.6 \times 10^{-4} - 3.0 \times 10^{-4}$	N/A
Cd	$3.8 \times 10^{-4} - 1.43 \times 10^{-2}$	$2.34 \times 10^{-4} - 1.9 \times 10^{-3}$
Cr	$7.6 \times 10^{-3} - 1.1 \times 10^{-2}$	$3.6 \times 10^{-4} - 1.05 \times 10^{-2}$
Hg	$5.3 \times 10^{-5} - 1.4 \times 10^{-4}$	$3.3 \times 10^{-6} - 5.4 \times 10^{-4}$
Ni	$1.2 \times 10^{-3} - 2.1 \times 10^{-3}$	$3.9 \times 10^{-4} - 1.71 \times 10^{-2}$
Pb	$1.3 \times 10^{-2} - 1.9 \times 10^{-2}$	$7.55 \times 10^{-3} - 4.06 \times 10^{-1}$

***Reference:**

¹ Rigo, H.G. et al. Debunking Some Myths About Metals. Presented at the EPA Municipal Solid Waste Combustion Conference, Williamsburg, VA, March 1993.

² "Compilation of Air Pollutant Emission Factors". AP-42 updated 7/93.

N/A - Not Available

Attachment 3



Westinghouse
Electric Corporation

Resource Energy Systems

1501 Ardmore Boulevard
Pittsburgh Pennsylvania 15221

EN5906DT
November 4, 1993

RECEIVED

Mr. Preston Lewis
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

NOV 05 1993

Division of Air
Resources Management

Dear Mr. Lewis:

At the October 19, 1993 SWANA meeting held at the Bay County Resource Recovery Facility (BCRRF), the issue of incinerating "segregated" waste streams at waste-to-energy facilities in Florida was discussed. As a result, a working meeting between the waste-to-energy industry and FLDEP will be scheduled to discuss procedures for FLDEP approval to process these waste streams. As you know, Westinghouse is currently involved in discussions with the Department regarding the approval of an individual segregated waste stream (i.e., pharmaceuticals/consumer products) for processing at the BCRRF and would like to keep these discussions moving forward in parallel with the industry/FLDEP efforts. Specific to our discussions during the October meeting, it was apparent that providing you with additional site-specific waste screening procedures would assist in your evaluation of our request. Therefore, enclosed is a document that describes the operating procedures for screening and processing special waste at the BCRRF.

This document discusses:

- Persons responsible for evaluating the feasibility of processing various waste streams.
- Data and evaluation procedures to be used by BCRRF for accepting special waste streams.
- Waste handling and screening procedures

This information is to supplement the prior submittals to you (August 12, 1993 and August 30, 1993) in which we provided:

- A list of pharmaceuticals/consumer products that we were requesting permission to process.
- Special waste analysis procedures to verify that the material is non-toxic and non-hazardous.


- Technical evaluation of data and literature information to verify that air emissions from the processing of this special waste.
- Metal emission test data from BCRRF and other waste-to-energy facilities equipped with an ESP to illustrate typical emission levels.
- Estimation of gross levels of metals in municipal solid waste.

To reiterate our position, based on all of the above information provided to date, Westinghouse believes that this special waste stream can be processed at the BCRRF without increasing air emission. Levels beyond those associated with processing municipal solid waste alone and without the need to modify the facility's current air quality permit because of the following:

- Pharmaceutical/consumer product waste stream will comprise less than 2% of the total waste feed rate of the facility. Of this 2%, 50-70% is estimated to be comprised of cardboard and other packaging materials.
- Waste handling procedures (mixing and charging) will assure that the small amount of special waste received will be mixed with MSW on the tipping floor prior to charging.
- The chemical analysis for each individual product will be evaluated to assure that the combustion of the special waste will not result in increased air emissions. For example, acid gas forming compounds, in addition to heavy metals, will be limited in the special waste streams to at or less than ranges typically found in MSW.
- The pharmaceutical/consumer product waste stream analyses have been reviewed and show that there is no lead, cadmium, or mercury compounds in any of the individual products. After your review of this additional information, we would appreciate the opportunity to meet with you to finalize the manner in which the BCRRF can begin to accept the pharmaceutical/consumer product waste stream.

Should have any questions in the meantime, please call me at 412/247-6478 or Jerry Joseph at 412/824-2355.

Sincerely,



David Testa
Environmental Affairs

Enclosure

cc: J. Leddy, BCRRF
R. Brookins, BCRRF
E. Middleswart, FLDEP-Pensacola
J. Joseph
D. Lazzara

OPERATING PROCEDURE FOR APPROVAL,
RECEIPT AND PROCESSING OF SPECIAL WASTES
BAY COUNTY RESOURCE RECOVERY FACILITY

TABLE OF CONTENTS

SECTION 1.0	INTRODUCTION
SECTION 2.0	WASTE COORDINATOR ASSIGNMENTS
	2.1 RES Headquarters
	2.2 Bay County, FL Facility
SECTION 3.0	WASTE EVALUATION PROCESS
	3.1 Waste Description
	3.2 Process Evaluation
	3.3 Environmental/Permitting Evaluation
	3.4 Site Evaluation
SECTION 4.0	SITE LOGISTICS
	4.1 Delivery Coordination
	4.2 Waste Handling and Inspection Procedures

SECTION 1.0 INTRODUCTION

This procedure provides working policies on the analysis and approval responsibilities which must be received for the processing of a special waste stream at the Bay County Resource Recovery Facility (BCRRF). It outlines a process which is intended to protect the employees of the facilities, the equipment of the facilities and the commercial obligations of the Corporation both from a performance and a regulatory standpoint.

This procedure is a living document which must be updated periodically dependent on any changes in the facility or unique special waste stream.

Section 2.0, Waste Coordinator Assignment, identifies the RES headquarters and the site-specific position responsible for coordinating the review process and commercial arrangements of accepting special waste streams at the facility.

Section 3.0, Waste Evaluation Process - outlines the evaluation process that the RES headquarters will use in consideration and approval of specific special waste streams in question at the facility, and the steps for assuring compliance with all applicable State and Federal regulations to accept and process non-MSW wastestreams.

Section 4.0, Site Logistics, addresses the site concerns of materials processing specific to delivery, handling and verification of materials content.

SECTION 2.0 WASTE COORDINATOR ASSIGNMENTS

This section identifies the staff members at RES headquarters and at the Bay County facility who will be responsible for coordinating the review of potential special waste streams and coordinating their overall acceptability for processing, both from a facility and regulatory viewpoint. These personnel are responsible for the complete technical and commercial review at each site and will assure that all agreements necessary will be reached before providing a decision to move forward with special waste stream acceptance and processing.

SECTION 2.1 RES Headquarters

The Special Wastes Task Force Manager will be the RES headquarters' person responsible for the following:

- Receiving and ranking customer's requests
- Routing the customer request through the internal review process at RES headquarters Engineering, required prior to site evaluation
- Routing the internally approved customer request through the Bay site review process for acceptability
- Interfacing with the customer contact to commence commercial arrangements for waste processing

SECTION 2.2 Bay County, FL Facility

The Business and Financial Operations Manager at the BCRRF will be the position responsible for coordinating the review and approval of BCRRF management for potential special waste stream processing. This person will perform the following:

- Receive RES headquarters' - approved customer processing requests for special waste streams
- Coordinate a review of the receiving, handling and process implications at the site with the following individuals:
 - a. Operations Supervisor
 - b. Environmental Control Officer
 - c. Plant Manager, as necessary
 - d. County, as necessary

- **Interface with customer contact for approval of special waste stream**
- **Forward additional customer requests for processing of other special waste streams to the Special Wastes Coordinator**

SECTION 3.0 WASTE EVALUATION PROCESS

This section outlines the analysis required and approval process for a potential special waste stream before the waste can be accepted at the site for processing.

SECTION 3.1 Waste Description

Any customer wishing to use the facilities' processing services must first complete a Material Profile Sheet on the special waste stream. **Attachment 1** presents a copy of the Materials Profile Sheet.

In addition to completing the Material Profile Sheet which provides the physical and chemical characteristics on the special waste stream, the following items also need to be addressed in detail:

- Where is the waste currently being stored/processed (i.e., location, company, length of time, etc.)?
- What quantity and in what time frame of delivery will the waste stream be generated and delivered?
- Who will be the hauler/deliverer of the waste?
- What forms of verification can be provided that the individual deliveries are uncontaminated with other (hazardous) materials?
- What forms of Proof of Destruction, if any, will be required?
- What kind of storage life does the waste have before its changes properties or method of handling? (MSDS)
- What kind of elements (water, air, temperature, etc.) can change the storage capability of the waste? (MSDS)
- What method of destruction has been used and for how long?



NON-HAZARDOUS MATERIAL PROFILE SHEET

I. Customer Information

Profile No. 0045

Generator: _____
Address: _____
Phone #: _____ Contact: _____
EPA ID#: _____

Broker: _____
Address: _____
Phone #: _____ Contact: _____

II. Material Description/Origin

A. Material Name _____

Waste is hazardous Yes No
Waste is toxic Yes No

B. Origin

Raw Material Intermediate Product
 Finished Product Production Waste
Package Insert Yes No
Description of Process Generating Waste

C. Reason for Disposal

Out of Spec Low Value Waste
 Expired Other _____
 Contaminated _____ (Contaminant)

D. Physical Form

Solid Powder Liquid Semi-solid
Minimum % Solids _____ Particle size _____
Stratified Yes No
Homogenous Yes No
Free Standing Liquids Yes No
Sample Yes No

III. Packaging/Shipping

A. Material Package

Plastic, Polymer Composition _____
 Foil Paper Other _____

B. Volume per Package _____

C. Desired Disposal Schedule

One Time Periodic (specify) _____
Amount per Shipment _____

D. Shipping Container

Box Bulk Solid
 Drum Other _____
Volume/weight per Container _____
Unfilled Package Weight _____

E. Proper DOT Shipping Name _____

F. DOT Hazard Class _____

IV. Chemical Characteristics

A. Chemical Composition (w/%)

_____%
_____%
_____%
_____%
_____%
_____%
_____%
_____%
Total (100%) _____%

B. Total Metals (ppm)
(Include all TCLP Metals)

C. Physical Properties

____ pH _____ Viscosity (cp)
____ Boiling Point (°F)
____ Melting Point (°F)
____ Ignition Point (°F)
____ Density (lb/ft³)
____ Flash Point (°F)
____ % Free Liquid
____ Heating Value (BTU/lb)

D. Total Inorganics (w/%)

Chlorine _____ Bromine _____ Iodine _____
Fluoride _____ Sulfur _____ Cyanide _____ Nitrogen _____

E. Attached Waste Analysis

Yes No

V. Safety Issues

A. Attach MSDS for material

B. Describe any special handling or storage requirements

VI. Current Disposal Method

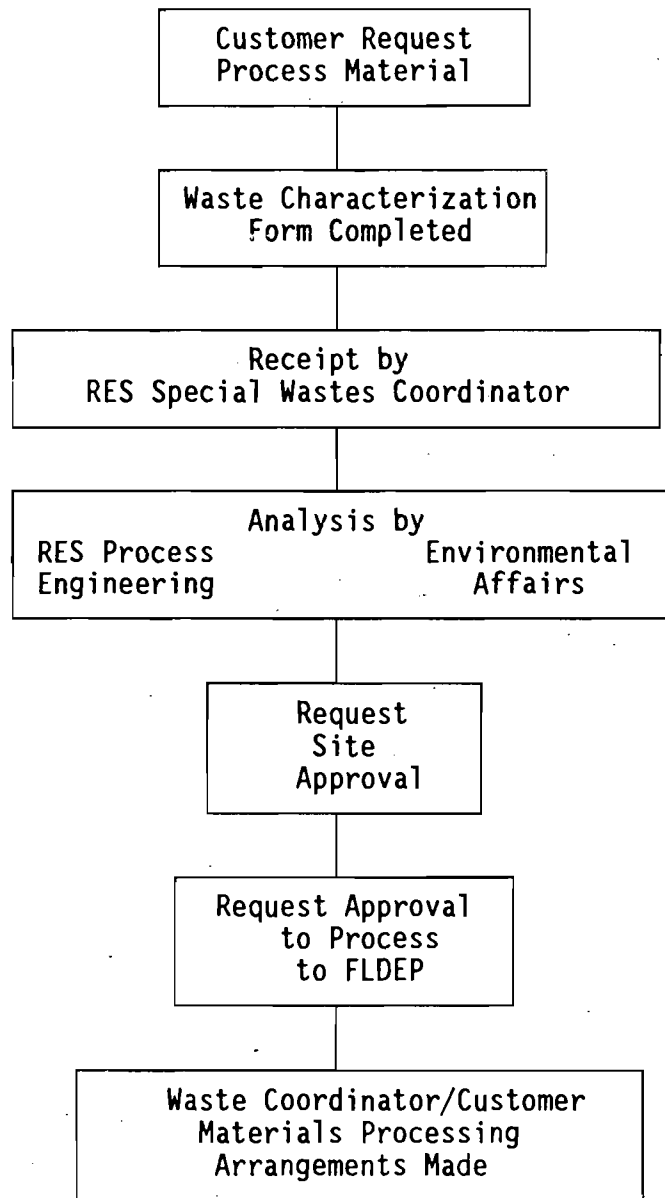
Municipal Landfill Non-Hazardous Incinerator
 Hazardous Waste Landfill Hazardous Incinerator

VII. Certification

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I further certify that the material is non-hazardous and poses no serious public safety nor health threat.

Signature _____ Name (print) _____ Title _____ Date _____

FIGURE 3-1
FLOW CHART — WASTE EVALUATION



SECTION 3.2 Process Engineering Evaluation

The Special Wastes Coordinator will receive the Material Profile Sheet and other waste description materials from the customer. He/she will initiate a process review of the materials by the RES Process Engineering group. This group will consider the process impacts to the equipment and system performance when handling the potential waste stream. Considered is the impact of the specialty waste on:

1. What is the potential impact to the storage and loader area?
2. What is the potential impact to the conveying systems?
3. What is the potential impact to the hydraulic feed rams?
4. What is the inherent energy (HHV) at the processing rate of MSW?
5. How will chemical makeup impact the combustion control scheme now in use at the facility?
6. How will the material affect corrosion/erosion in the combustors and boilers?
7. How will the material affect the quantity, quality of ash (does it change its handling characteristics) and ash handling system?
8. How will the material affect the emissions?
9. If the material requires special feeding requirements, what does the process modifications mean to the system?

SECTION 3.3 Environmental/Permitting Evaluation

When the Special Wastes Coordinator has received the Materials Profile Sheet and any additional waste description materials from the customer, he/she will initiate a process review of the materials by the Environmental Affairs group, concurrent with the review being done by the Process Engineering group. Environmental Affairs will consider the regulatory impacts to the facility, if any, if the waste is accepted for processing. Items to be considered are the following:

- Does the facility's current permits have any restrictions relating to this material?
- Will the processing of this waste endanger any of the process guarantees with respect to processing and emissions which are found in the permits?
- Will the Environmental Engineer on site be responsible for any additional recordkeeping and/or require any additional verifications concerning this waste to be kept on file at the site?

- Will any problems associated with dust, noise, odor or free-flying waste be involved with the processing of this waste?
- Will the resultant ash generated from the processing of this waste have any physical or chemical concerns for the ultimate disposal facility?

SECTION 3.5 Site Evaluation

When the Process Engineering and the Environmental Affairs groups have reviewed and initially accepted the potential special waste stream, the Special Wastes Coordinator will issue the internal analyses along with the Materials Profile Sheet and any additional information known about the waste stream to the site manager.

Appropriate safety considerations and procedure modifications to accommodate processing will need to be addressed, as necessary and enacted on site. It is the responsibility of the Business and Financial Operations Manager to have reviewed the waste information with all relevant parties.

SECTION 4.0 SITE LOGISTICS

This section identified the procedures for safe delivery, receipt, storage and processing of special waste streams that have received appropriate approval for processing at the Facility. Discrepancies between materials approved and materials reviewed will be handled by the on site waste coordinators.

SECTION 4.1 Delivery Coordination

Upon receipt of approval to process, the site's waste coordinator will arrange the delivery date and time of special waste stream(s) with the customer. The coordinator will determine the special needs for floor space allocation, floor storage and conveyor feeding and make appropriate arrangements with the appropriate floor supervisor. Arrangements for any unusual personnel requirements will also be made at this time.

Deliveries will only be taken during normal delivery hours. Specific delivery arrangements will be prearranged through the site's waste coordinator.

Confirmation by the waste coordinator of the acceptability of the delivery time and date will be received from the operations supervisor.

SECTION 4.2 Waste Handling and Inspection Procedures

The shift supervisor will be apprised of any special handling conditions required on the floor by loader operators or operating personnel and he/she will inform appropriate personnel prior to or upon receipt of special waste streams.

The shift supervisor will inspect the delivery truck for the special waste delivery and verify visually through random inspection that materials are as specified. Any discrepancies between materials contracted and materials received will be handled by the site's waste coordinator. Storage of materials for future combinations in the waste stream will be managed by the shift supervisor.

An on-site acceptance procedure for special wastes will be instituted at the Facility to assure that only approved waste will be processed. When a load of special waste arrives at the scalehouse, the scalehouse operator will first verify that the waste is approved for disposal by checking an approval list which will be kept current at all times. If the waste does not appear on the approval list, the load of waste will be rejected. Even if the waste appears on the approval list, if the waste load is determined by BCRRF personnel to be suspicious or contain unacceptable waste, BCRRF will reject the load. The shift supervisor will verify that the special waste is as described on the materials profile sheet. This sheet will include information on the physical state, color, odor, and consistency of the waste load.

If the waste is acceptable, the hauler will be directed to proceed to the designated area of the tipping floor.

In addition, the shift supervisor will be available to inspect every load which contains special waste. Based on the results of the visual inspection, the shift supervisor will recommend acceptance or rejection of the special waste load.

The appropriate site waste coordinator will prepare, as necessary, a certificate of destruction which will be signed by the Plant Manager. This certificate will be provided to the customer as verification of materials receipt and processing at the Facility.

Attachment 4

BEST AVAILABLE COPY

DMG Environmental, Inc.

21 Yost Blvd. Suite 202, Pittsburgh, PA 15221

(412)824-2355

. Fax (412)824-8131

November 16, 1993

Clair Fancy
Bureau of Air Quality
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blainstone Road
Tallahassee, FL 32399

Dear Clair:

I am writing you confirming the phone conversation on November 15 between you, David Beachler and myself, regarding the upcoming compliance testing at the Bay County Resource Recovery Facility (BCRRF). As we stated during our phone conversation, the BCRRF will be conducting its annual compliance test in early December 1993. BCRRF has submitted a request to the Department to process small amounts of consumer product and pharmaceutical wastes (less than 2% of total throughput) along with documentation concerning the screening and handling of this material to assure no potential increase in emissions. We agreed that it would be useful for the Facility to conduct the upcoming compliance test using a mixture of typical MSW along with a representative sample of the consumer products and pharmaceuticals that we would intend to process in the future.

The purpose of the emission test of course, will be to verify that burning a small amount of consumer product and pharmaceutical waste will not increase emissions above levels typically emitted from the Facility. To summarize the documentation previously submitted to FLDEP, the BCRRF believes that burning small amounts of the pharmaceutical wastes will not increase air emission because:

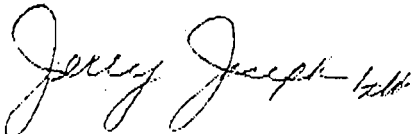
- Pharmaceutical/consumer product waste stream will comprise less than 2% of the total waste feed rate of the facility. Of this 2%, 50-70% is estimated to be comprised of cardboard and other packaging materials.
- Waste handling procedures (mixing and charging) will assure that the small amount of special waste received will be mixed with MSW on the tipping floor prior to charging.

Page 2
Clair Fancy
November 16, 1993

- The chemical analysis for each individual product will be evaluated to assure that the combustion of the special waste will not result in increased air emissions. For example, acid gas forming compounds, in addition to heavy metals, will be limited in the special waste streams to at or less than ranges typically found in MSW.
- The pharmaceutical/consumer product waste stream analyses have been reviewed and show that there is no lead, cadmium, or mercury compounds in any of the individual products. After your review of this additional information, we would appreciate the opportunity to meet with you to finalize the manner in which the BCRRF can begin to accept the pharmaceutical/consumer product waste stream.

Please advise either myself or Dave Testa (412/247-6478) as soon as possible as to the Department's approval since we will need time to organize this test for December. Should you have any questions in the meantime, please call me at (412) 824-2355.

Sincerely,



Jerry Joseph

cc: D. Testa, Westinghouse
E. Middleswart, FLDEP

Attachment 5



Westinghouse
Electric Corporation

Resource Energy Systems

1501 Ardmore Boulevard
Pittsburgh Pennsylvania 15221

November 18, 1993

Mr. Clair Fancy
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, FL 32399

Dear Mr. Fancy:

As a follow-up to our conversation on November 18, 1993, Bay County Resource Energy Systems, Inc., on behalf of the Bay County Resource Recovery Facility (BCRRF), is hereby requesting that Air Quality Permit A003-165754 and A003-165755 be amended to allow for a test burn of a mixture of municipal solid waste and pharmaceutical/consumer product waste. This test burn will be conducted for a period of approximately one week during the last two weeks of December 1993. The handling procedures and waste analysis methods as described in our letter of November 16, 1993 and previous submittals to your office will be adhered to during this test burn.

Also, enclosed is a check for \$250.00 for the permit amendment application fee.

If you have any questions on this matter, please do not hesitate to contact me at 412/247-6478.

Sincerely,

A handwritten signature in black ink, which appears to read "David H. Testa", is written over the typed name.

David H. Testa
Senior Environmental Engineer

Enclosure

cc: J. Joseph, DMG, Inc.
J. Leddy, BRES, Inc.
R. Brookins, BRES, Inc.
D. Lazzara, RES

Is your RETURN ADDRESS completed on the reverse side.

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Mr David Testa
 Bay Resource Mgmt Center
 c/o Westinghouse RESD
 1501 Ardmore Blvd
 Pittsburgh, Penn 15221

4a. Article Number
 P 872 562 574

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
 M. W. Thomas

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

P 872 562 574



Receipt for Certified Mail

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

PS Form 3800, JUNE 1991

Sent to Mr. David Testa	
Street and No. Bay Resource Mgmt Center	
P.O., State and ZIP Code c/o Westinghouse RESD Pittsburg, Penn 15221	
Postage 1501 Ardmore Blvd	
Certified Fee Pittsburg, Penn 15221	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date mailed 11-23-93 amend. to A003-165754 -165755	