CDM Camp Dresser & McKee Inc.

environmental services

1601 Belvedere Road, Suite 211 South
West Palm Beach, Florida 33406
Tel: 407 689-3336 Fax: 407 689-9713

PSD-FL-108

August 7, 1995

Mr. Hamilton Oven, P.E.
Administrator
Power Plant Siting Section
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road, MS 48
Tallahassee, Florida 32399-2400

Subject: Power Plant Site Certification PA 84-20
Application to Construct/Operate Landfill
Gas Management System for Class I and Class III Landfills
North County Resource Recovery Facility
Solid Waste Authority of Palm Beach County

Dear Mr. Oven:

The Solid Waste Authority (SWA) of Palm Beach County requests an amendment to the Power Plant Site Certification PA 84-20 to construct and operate an active landfill gas system to control emissions from the Class I and Class III landfills located at the North County Resource Recovery Facility.

Six sets of the Florida Department of Environmental Protection (FDEP) Form 62-210.900(1), applicable pages of form 62-701.900(1), and associated documentation including a $2,000 application processing fee are provided in support of SWA's request for the amendment. The submittal is prepared in accordance with Chapters 62-210 and 62-701, F.A.C. and the construction permit requirements as defined in Chapter 62-4.210, F.A.C.

The provided six sets have been distributed as follows:

- Two-sets with the $2,000 application processing fee are transmitted herewith to your office.
- Two sets to: Ms. Stephanie S. Brooks, P.E., Air Resources Section, at FDEP/West Palm Beach
- Two sets to: Mr. Joseph Kahn, P.E., Solid Waste Section, at FDEP/ West Palm Beach

Also, please note that SWA is currently preparing the Title V permit application (40 CFR Part 70) for their waste to energy facility. The Title V permit application, to be submitted at a later date, will include emissions from the proposed landfill gas system flares.

Finally, this submittal is organized as follows:

- Letter of transmittal followed by processing fee check
- Form 62-210.900(1): Sections 1, 2, 3, and 4
- Applicable pages of form 62-701.900(1): Section 5
- Supporting documentation: Appendices and attached construction drawings

SWA and CDM appreciate FDEP's assistance on this project. If there are any questions regarding this request, please contact our office.

Very truly yours,

CAMP DRESSER & McKEE INC.

8/7/95

Alex H. Makled, P.E.
Florida License No. 45935

AHM/mjm
Enclosures

File: 2678-08-RT[9]

cc: Stephanie S. Brooks, P.E., w/two sets of enclosures - FDEP/WPB
Joseph Kahn, P.E., w/two sets of enclosures - FDEP/WPB
John Booth, P.E., w/o enclosures - SWA
Marc Bruner, Ph. D., w/o enclosures - SWA
David Lowe, P.E., w/one set of enclosures - SWA
Richard Statom, w/one set of enclosures - SWA
James A. Getting, P.E., w/one set of enclosures, WET

mm0741

SOLID WASTE AUTHORITY PALM BEACH COUNTY
7501 NORTH JOG ROAD
WEST PALM BEACH, FLORIDA 33412

No. 087862

CHECK NO.	DATE	AMOUNT
87862	07/28/95	***2,000.00**

Y:

THE SUM OF ********2,000.00DOLLARS

VOID AFTER 90 DAYS

TO THE
ORDER OF: FL DEPT OF ENVIRONMENTAL PROTECTION
P.O. BOX 15425
WEST PALM BEACH, FL
33416

Barnett Bank of Palm Beach County
West Palm Beach, FL 33409

AUTHORIZED SIGNATURE

⑈087862⑈ ⑆067008582⑆ 16116565351⑈

Application

Air Permit Application

Solid Waste Authority of Palm Beach County, Florida

July 1995

Prepared for:

Solid Waste Authority of
Palm Beach County
7501 North Jog Road
West Palm Beach, Florida 33416

Prepared by:

Camp Dresser & McKee Inc.
1601 Belvedere Road, Suite 211, South
West Palm Beach, Florida 33406

I N T E R O F F I C E M E M O R A N D U M

Date: 04-Sep-1995 04:34pm EST
From: Alvaro Linero TAL
LINERO_A
Dept: Air Resources Management
Tel No: 904/921-9532
SUNCOM: 291-9532

TO: See Below

Subject: Solid waste Authority, Palm Beach County

Syed. You are assigned the referenced project. It was submitted to Site Certification who received it on August 7. We, in turn, got it on August 28.

Please review it briefly. Get with Buck and ask him by what date we need to have comments about completeness (or sufficiency).

The project is for a couple of flares and a gas collection system at Class I and III landfills. It will reduce VOC's in a Maintenance area and will help reduce odor problems. At first glance it does not appear to trigger PSD at this time. Emissions are stated to be less than 25 TPY for any polllutant, but more than 5 TPY. My guess is that the main pollutant will be from SO_2 from oxidation of H_2S.

It is apparently on the site of the Palm Beach RRF which is why it is covered by Certification.

Let's see what can be done to move the project forward. Apparently these landfills have been receiving waste only since 1988/89. It may not produce enough gas to run an engine yet. If it does, we ought to try to encourage it although we have no authority on that. There is a closed landfill on an adjacent site that might be a better candidate for gas recovery per the document "Opportunites for Landfill Gas Energy Recovery in Florida," which I borrowed from Clair's desk. We ought to check status of it. Check out Clairs book for possible references and then return it to him.

Feel free to consult with project engineers (CDM), Palm Beach County (SWA), SE DEP District Air and Solid Wast Sections on this. Determine if it would be helpful to have a meeting here or in Palm Beach on this project. Coordinate with Buck, of course.

Check status of NSPS Subpart ~~www~~ to which they refer. Find out from Larry or Tom if it is a final version and if we have adopted it (or plan to).

Call Stephanie Brooks and ask her to send one of her two copies to Palm Beach HRS. Give Kim a rundown on it so it can be added to the docket and an active file started. Good luck.

Distribution:

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
Lawton Chiles, Governor Carol M. Browner, Secretary

PERMITTEE:
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, FL 33412

Permit Number: PSD-FL-108A
Expiration Date: None
County: Palm Beach
Latitude/Longitude: 26°46'00"N 80°08'45"W
Project: North County Regional Resource Recovery Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 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 North County Regional Resource Recovery Facility is authorized to operate the two (2) existing RDF boilers to their maximum design input rating of 412.5 MMBtu's per hour with a maximum steam rating of 324,000 lbs. per hour, subject to the General and Specific Conditions stated herein.

This permit shall supercede the original PSD permit (PSD-FL-108) issued to the North County Regional Resource Recovery Facility.

The Resource Recovery Facility consists of three major plants: the RDF manufacturing plant, the boiler plant and the electric generating plant.

The facility is designed to process 2,000 TPD of municipal solid waste (MSW) with an annual throughput of 624,000 tons. The RDF manufacturing plant is equipped with three MSW processing lines, any two of which can handle 2,000 TPD of incoming MSW. Excess capacity and redundancy were built into the processing plant to assure that the throughput requirements could be met with one processing line down for planned or unplanned maintenance.

The boiler plant includes two B&W boilers, each designed to combust up to 900 TPD of RDF with a reference heating value of 5,500 Btu/lb (412.5 MMBtu/hr). Actual RDF heating values typically range from 4,500 to 6,200 Btu/lb respectively.

Emissions from each boiler are controlled by a Joy Technologies spray dryer absorber followed by a Joy/BSH Krefeld four field electrostatic precipitator. Each precipitator has a gas flow

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT[S]

In the matter of an
Application for Permit by:

DER File No. PSD-FL-108A
Palm Beach County

Solid Waste Authority of Palm
Beach County
7501 North Jog Road
West Palm Beach, FL 33412

Enclosed is Permit Modification Number PSD-FL-108A to allow the two (2) existing RDF boilers to operate at their maximum design input rating of 412.5 MMBtu's per hour, at the North County Regional Resource Recovery Facility in Palm Beach County, Florida, issued pursuant to section(s) 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 1-14-92 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to
§120.52(11), Florida Statutes,
with the designated Department
Clerk, receipt of which is hereby
acknowledged.

(Clerk) 1-14-92 (Date)

Copies furnished to:
J. Harper, EPA
S. Brooks, SE District
C. Shaver NPS
J. Stormer, HRS

120

ıg of 198,000 ACFM and is designed to operate with three of fields in service.

gas emissions (opacity, O_2, SO_2, CO and NO_X) from each unit monitored with an Enviroplan CEM system.

turbine-generator plant has a nominal output rating of 62 MW, is matched to the full output capacity of the boilers.

source shall be constructed in accordance with the permit ication, plans, documents, amendments and drawings, except as rwise noted in the General and Specific Conditions.

chments are listed below:

Solid Waste Authority application for modification received November 29, 1989.
Solid Waste Authority letter dated October 5, 1990.
HRS letter dated October 8, 1990.
Solid Waste Authority letter dated December 3, 1990.
HRS letter dated May 24, 1991.
Solid Waste Authority letter dated July 17, 1991.
Southeast District Office letter dated October 22, 1991.
HRS letter dated October 29,1991.
Solid Waste Authority letter dated November 5, 1991.
Solid Waste Authority letter dated November 6, 1991
EPA letter dated November 20, 1991.

PERMITTEE:
Solid Waste Authority of Palm Beach County

Permit Number: PSD-FL-108A
Expiration Date: None

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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. Neither 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 is not 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, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; 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.

6. The permittee shall 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

GENERAL CONDITIONS:

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 and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

a. Have access to and copy any records that must be kept under the conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor 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 provide the Department with the following information:

a. a description of and cause of non-compliance; and

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

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 for 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 involving the permitted source

GENERAL CONDITIONS:

arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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 17-4.120 and 17-30.300, F.A.C., 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 or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

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

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold 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) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for

GENERAL CONDITIONS:

this permit. These materials shall be retained 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 dates 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 corrected promptly.

SPECIFIC CONDITIONS:

1. Before the third unit commences construction, a new PSD construction permit must be submitted to the DER, since more than 18 months have elapsed from the date construction permit PSD-FL-108 was issued on December 16, 1986.

2. The Solid Waste Authority's North County Regional Resource Recovery Facility shall be allowed to operate continuously (i.e., 8,760 hrs/yr).

3. Stack emissions from each unit shall not exceed the following limits.

a. Particulate matter: 0.015 grains per dscf corrected to 7% O_2.

b. NO_X: 0.48 lbs/MMBtu. (24-hour block average)

c. Carbon Monoxide: 400 ppmvd corrected to 7% O_2 (1-hour average); 200 ppmvd corrected to 7% O_2 (24-hour average).

SPECIFIC CONDITIONS:

d. Lead: 4.0 x 10-4 lbs/MMBtu.

e. Mercury: 2.4 x 10-4 lbs/MMBtu.

f. Beryllium 7.3 x 10-7 lbs/MMBtu.

g. Fluoride: 0.0032 lbs/MMBtu.

h. VOC: 0.016 lbs/MMBtu.

i. SO_2: 70% removal or 30 ppmvd at 7% O_2, whichever is less stringent (24-hour geometric mean).

j. Hydrogen Chloride: 90% removal or 25 ppmdv at 7% O_2, whichever is less stringent (3 run test average).

k. The opacity from each unit shall not exceed 10%, 6 minute average. CEM readings when the process is not operating shall be excluded from averaging calculations.

l. Dioxins/Furans: Emissions of total (tetra thru octa-chlorinated dibenzo-p dioxins and dibenzofurans) shall not exceed 60 ng/dscm at 7% O_2.

4. Each unit shall be tested within 180 days of issuance of this permit, and annually thereafter, to demonstrate compliance with emission standards mentioned in specific condition No. 3, using the following EPA test methods contained in 40 CFR 60, Appendix A, and in accordance with F.A.C. Section 17-2.700:

a. Method 1 for selection of sample site and sample traverses.

b. Method 2 for determining stack gas flow rate when converting concentrations to or from mass emission limits.

c. Method 3 or 3A for gas analysis when needed for calculation of molecular weight or percent CO_2.

d. Method 4 for determining moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits.

e. Method 5 for concentration of particulate matter and associated moisture content. One sample shall constitute one test run.

f. Method 9 for visible determination of the opacity of emissions.

SPECIFIC CONDITIONS:

g. Method 6, 6C or 8 for concentration of SO_2, or other Methods approved by DER. Two samples, taken at approximately 30 minute intervals, shall constitute one test run.

h. Method 7, 7A, 7B, 7C, 7D or 7E for concentration of nitrogen oxides, or other Methods approved by DER. Four samples, taken at approximately 15 minute intervals, shall constitute one test run.

i. Method 26 for determination of hydrochloric acid concentration or other Methods approved by DER and EPA.

j. Method 10 (continuous) for determination of CO concentrations. One sample constitutes one test run.

k. Method 12 for determination of lead concentration and associated moisture content, or other Methods approved by DER. One sample constitutes one test run.

l. Method 13A or 13B for determination of fluoride concentrations and associated moisture content, or other Methods approved by DER. One sample constitutes one test run.

m. Method 19 for determination of "F" factors in determining compliance with heat input emission rates.

n. Method 101A for determination of mercury emission rate and associated moisture content, or other Methods approved by DER. One sample shall constitute one test run.

o. Method 104 for determination of beryllium emission rate and associated moisture content, or other Methods approved by DER. One sample shall constitute one test run.

p. Method 25 or 25A for determination of volatile organic compounds, or other Methods approved by DER. One sample shall constitute one test run.

q. Method 23 for determination of dioxin/furan concentration or other Methods approved by DER and EPA.

5. The permittee shall submit a stack test report to the Department within 45 days of testing.

6. The temperature at the exit of the dry scrubber shall not exceed 300°F (4 hour block average). Appropriate instrumentation shall be installed, if not already installed, within 180 days of

SPECIFIC CONDITIONS:

issuance of this permit, at a proper location to continuously monitor and record these operating temperatures.

7. During boiler start up, the auxiliary gas burners shall be operating at their maximum capacity prior to the introduction of RDF to the boilers, and shall remain in operation until the lime spray dryer and particulate control device are fully operational.

8. During normal, non-emergency boiler shut down, the auxiliary gas burners shall be operated at their maximum capacity until all RDF has been combusted.

9. The annual capacity factor for the auxiliary gas burners, as determined by 40 CFR 60.43B(d), shall be less than 10%.

10. Open storage of solid waste outside of a building is prohibited.

11. The Solid Waste Authority's North County Regional Resource Recovery Facility shall utilize municipal solid waste as stated in the permit application. No sludge from sewage treatment plants shall be used as fuel. Use of alternate fuels would necessitate application for a modification to this permit.

12. During the compliance stack tests, RDF shall be analyzed by at least two separate labs, approved by the Department, using split samples for the Btu and moisture contents.

13. The lbs/hr of steam produced, corrected for pressure and temperature, shall be continuously monitored and recorded on a 4 hour block average. This monitor and data record shall be properly calibrated and maintained at all times.

14. Continuous Monitoring Program: The owner or operator of this source shall install (if not already installed), maintain, operate, and submit reports of excessive emissions for the SO_2, NO_x, CO, oxygen, and opacity. All averaging periods for emissions monitors shall be based on a midnight to midnight averaging period. The permittee shall also continuously monitor temperature at the dry scrubber exit, and steam production. The facility shall be operated by personnel properly trained for the equipment herein. The permittee shall provide a copy of the operation and maintenance manual for the Continuous Emissions Monitoring System to the Department within 180 days of issuance of this permit. The

SPECIFIC CONDITIONS:

permittee shall provide written notice to the Department 15 days prior to formal staff training sessions, and allow Department representatives to attend said training sessions.

15. Continuous monitoring data shall be collected and recorded during periods of startup, shutdown and malfunction. Emissions during periods of startup, shutdown and malfunction shall be excluded from averaging calculations, and from determinations of compliance with emissions limits of this permit provided, however, that the duration of startups, shutdowns or malfunctions shall not exceed three hours per occurrence.

a. The startup period as stated in this condition shall mean the period when the boilers begin continuous burning of RDF, and does not include any warm up period when only the auxiliary gas burners are utilized, and no RDF is being combusted.

b. Malfunction shall mean any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal and usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

16. The Department's Tallahassee office and the West Palm Beach District office, along with the PBCHD, shall be notified at least 30 days prior to the first annual stack tests. After the first stack tests are completed, the permittee shall give at least 15 days written notice prior to future annual stack testing to the West Palm Beach District and PBCHD offices.

17. There shall be no objectionable odors from this facility during operation, startup, shutdown or malfunction periods.

18. The permittee shall maintain a daily log of the municipal solid waste received. Such a log must record, at a minimum, the amount of waste, the time, and the type of waste received. The permittee shall also retain records of all information resulting from monitoring activities and indicating operating parameters as specified in this permit for a minimum of three years from the date of recording.

PERMITTEE:
Solid Waste Authority of Palm Beach County

Permit Number: PSD-FL-108A
Expiration Date: None

Issued this 13th day
of January, 1992

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Carol M. Browner
Secretary

Final Determination

Solid Waste Authority of Palm Beach County
North County Regional Resource Recovery Facility
Palm Beach County, Florida

Modification
Permit No. PSD-FL-108A

Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

January 7, 1992

FINAL DETERMINATION

Solid Waste Authority (SWA) of Palm Beach County submitted an application for a permit modification on November 29, 1989. The North County Regional Resource Recovery Facility is currently authorized to process 2,000 tons per day of municipal solid waste with an annual throughput of 624,000 tons. The modifications requested would allow the maximum boiler heat input to increase from 360 MMBtu/hr to 412.5 MMBtu/hr. Modifications to the nitrogen oxide (NO_x) and carbon monoxide (CO) emission rates were also requested.

The Florida Department of Environmental Regulation (FDER) reviewed the application and issued a Preliminary Determination and Technical Evaluation on October 16, 1991. Modifications included raising the maximum boiler heat input rate from 360 to 412.5 MMBtu/hr, raising the NO_x emission rate from 0.32 to 0.48 lbs/MMBtu, and modifying the CO emission rate to conform with EPA's guidelines for Existing Municipal Waste Combustors. The notice of intent to issue was published in the Palm Beach Post on October 20, 1991.

The U.S. Environmental Protection Agency (EPA) submitted a letter commenting on the Preliminary Determination on November 20, 1991. The first comment made by the EPA was to modify the permit conditions for hydrogen chloride and sulfur dioxide to read the same as the federal guidelines. As a result, the words, "whichever is less stringent" were added to specific conditions 3.i and 3.j of the permit. In accordance with federal guidelines, the EPA commented that the opacity from each unit should not exceed 10%, for a 6-minute average. Specific condition 3.k was modified accordingly. The EPA also requested that the Department include an emission standard for dioxins and furans. This standard was added to the permit as specific condition 3.l and limits the emissions to 60 nanograms per standard cubic meter, corrected to 7% O_2. In accordance with this emission limitation, Method 23 has been added as specific condition 4.q.

On October 22, 1991, the Department's Southeast District (SED) office submitted a letter commenting on the Preliminary Determination. It was suggested that either an expiration date be specified or that specific condition 21 be modified to reflect some other basis for the operation permit application deadline. A review of the Preliminary Determination indicated that conditions 20 and 21 were inadvertently included in the permit (these conditions are not included for permits being reviewed under the Power Plant Siting Process). Specific conditions 20 and 21 have been removed from the permit. The SED's letter also expressed concern over the apparent increase in the mercury and VOC emission limits. After reviewing the permit history of this facility, the Department concluded that the emission limits in

the original PSD construction permit (1986) were extrapolated from the emission limits in the Power Plant Siting Certification (PPSC) in such a way as to allow higher total emissions of mercury and VOCs from the facility. The PSD permit modification (1991) used the emission limits from the PSD construction permit (1986) and not the PPSC. Compliance testing conducted for the North County Resource Recovery Facility demonstrated that neither unit tested higher than 21% of the stricter limit for mercury or 5% of the stricter limit for VOCs. As this is the case, the mercury emission limit in specific condition 3.e was changed from 0.00036 lbs/MMBtu to 0.00024 lbs/MMBtu and the VOC emission limit in specific condition 3.h was changed from 0.023 lbs/MMBtu to 0.016 lbs/MMBtu.

On November 4, 1991, the Department received a comment letter regarding the Preliminary Determination from the Palm Beach County Health Unit (PBCHU). In this letter, the PBCHU recommended including a dioxin/furan emission limit according to the federal guidelines. Also, the PBCHU concurred with the SED's comments regarding the mercury and VOC emission limits. All comments made by the PBCHU were previously addressed.

The final action of the Department will be to issue the modified permit (PSD-FL-108A) as proposed in the Technical Evaluation and Preliminary Determination except for the changes discussed above.

Best Available Control Technology (BACT)
North County Regional Resource Recovery Facility
Solid Waste Authority of Palm Beach County
Palm Beach County, Florida
PSD-FL-108-A

The applicant has constructed a resource recovery facility (RRF) located near the intersection of the Beeline Highway and the Florida Turnpike in Palm Beach County, Florida. The resource recovery facility consists of three major plants: the RDF manufacturing plant, the boiler plant and the electric generating plant.

The facility is designed to process 2,000 TPD of municipal solid waste (MSW) with an annual throughput of 624,000 tons. The RDF manufacturing plant is equipped with three MSW processing lines, any two of which can handle 2,000 TPD of incoming MSW. The boiler plant includes two B&W boilers, each designed to combust up to 900 TPD of RDF with a reference heating value of 5,500 Btu/lb (412.5 MMBtu/hr). Emissions from each boiler are controlled by a Joy Technologies spray dryer absorber followed by a Joy/BSH Krefeld four field electrostatic precipitator. Flue gas emissions (opacity, O_2, SO_2, CO and NO_x) from each unit are monitored with an Enviroplan CEM system. The turbine-generator plant has a nominal output rating of 62 MW, and is matched to the full output capacity of the boilers.

The original application to construct the facility was submitted in 1985. As the permit was being finalized in 1986, the applicant met with the Department to identify several items where the proposed permit differed from the designs being finalized and the contract for construction and operation which was executed in 1986. The primary issue concerned heat input. The draft permit provided a heat input of 360 MMBtu/hr capacity for each boiler. The design allowed heat input of 412.5 MMBtu/hr. This higher boiler capacity was intended to provide more reliable operating margins. The increased capacity allows more throughput during peak waste generation periods, allows for catch up capacity after scheduled or unscheduled downtime and to account for variability in fuel heating value. The increased capacity decreases the likelihood that raw garbage would be diverted to the landfill.

In addition to permitted heat input, the applicant also identified emission limitations for some air pollutants for which the draft permit and contract differed. Based on the discussions conducted in 1986, the Department and the applicant concurred that the permit would be issued as drafted. The applicant agreed to accept the permit as drafted and submit a request for modification to conform the permit to the design at a later date.

In 1989, the applicant submitted a request to increase the permitted boiler capacity and modify the emission limitations for the pollutants nitrogen oxides, carbon monoxide, sulfur dioxide, sulfuric acid mist, lead, and mercury. Subsequently the applicant withdrew the request for modifications of emission limitations for lead and mercury. In accordance with this request, BACT has been re-evaluated for nitrogen oxides and carbon monoxide. The emission limitation for sulfur dioxide has been reviewed from the standpoint of alternative means of determining compliance, and an evaluation has been made to determine if an emission limitation is needed for sulfuric acid mist.

BACT Determination Requested by the Applicant:

	Current Permit Language	Requested Modification
NO_x:	0.32 lbs/MMBtu	0.56 lbs/MMBtu
CO:	400 PPMDV (3 hr. avg.) @ 12% CO_2	200 PPMDV (24 hr. avg.) @ 12% CO_2 400 PPMDV (1 hr. avg.) @ 12% CO_2

Date of Receipt of a BACT Application:

November 30, 1989

BACT Determination Procedure:

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards of BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

With regard to the considerations outlined above, the evaluation will also take into account both the regulations as they existed in 1986 when the original permit was issued, and the emission guidelines for existing municipal waste combustors that have recently been promulgated under Section 111(d) and 129 of the Clean Air Act Amendments of 1990.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

Nitrogen Oxides

The applicant asserted that original NO_X limit of 0.32 lb/MMBtu is too stringent. This was based on permit limitations allowing higher NO_X emissions for mass burn facilities permitted in Florida prior to or concurrently with the applicant's facility. The applicant requested the permit limit be changed from .32 lbs/MMBtu to .56 lbs/MMBtu.

A review of the BACT/LAER Clearinghouse suggest that the NO_X limit requested by the applicant is comparatively high. Although no RDF facilities have been required to use add on equipment for NO_X control, such as thermal de-NO_X, several RDF facilities have been permitted with lower than the applicant's requested NO_X limitations.

Two RDF facilities, in Huntsville, Alabama and Honolulu, Hawaii were permitted in 1987 (Palm Beach RRF was permitted in 1986). Each had NO_X emission limitations of 0.46 lb/MMBtu and 260 ppmdv at 12% CO_2 (equates to approximately 0.46 lb/MMBtu for the Palm Beach Facility). Given these limitations and the stack test results, an emission level of 0.48 lb/MMBtu is viewed to be reasonable for the Palm Beach RRF and is thereby judged to represent BACT.

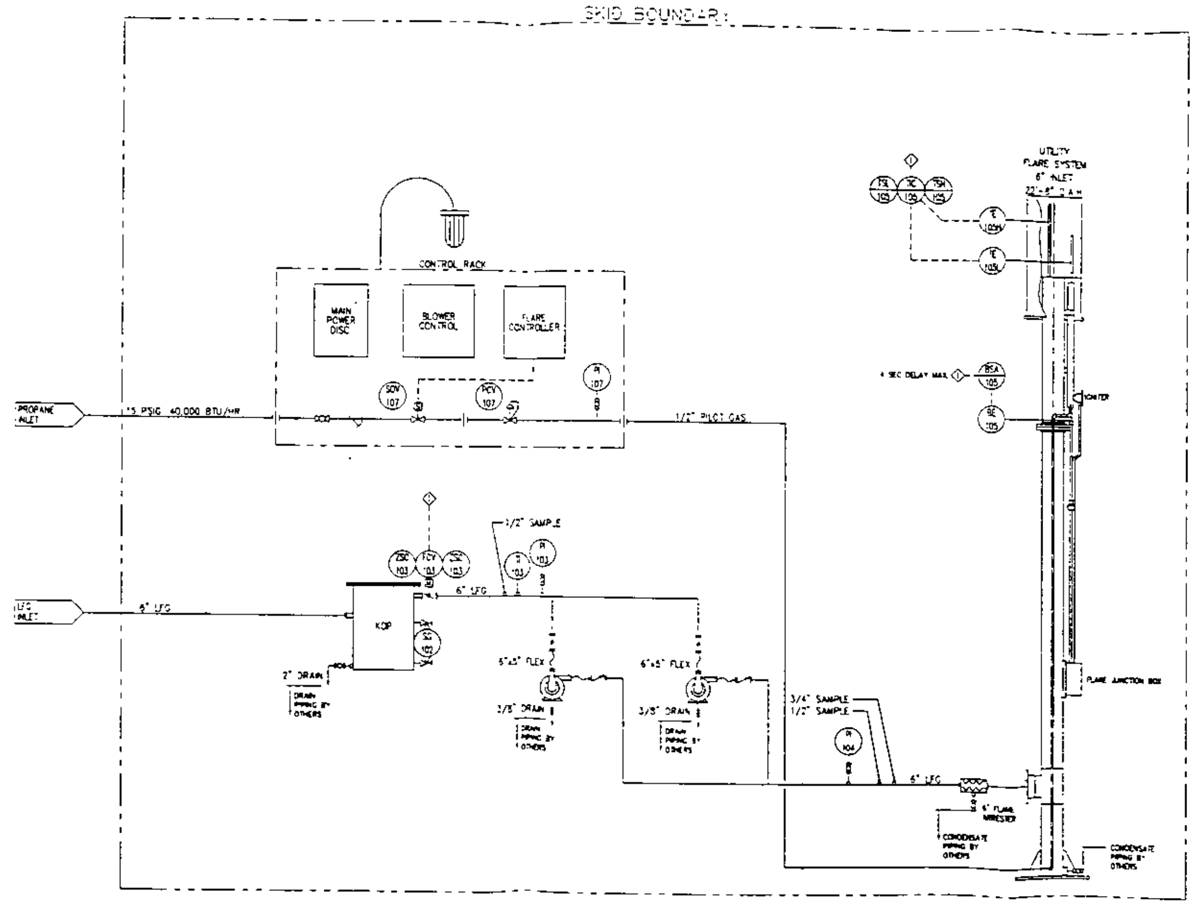
Carbon Monoxide

The applicant has proposed a reduction in the emission limitation for carbon monoxide as a valid criteria to demonstrate good combustion practices.

Appendix C: Drawings

EQUIPMENT / INSTRUMENT LEGEND

TAG NO.	SERVICE	DESCRIPTION
[illegible]	[illegible]	... GLASS LEVEL GAGE
FCV-103	LFG GAS	6" ELECTRIC FLOW CONTROL VALVE
PI-103	LFG GAS	BLOWER INLET PRESSURE GAGE
TI-103	LFG GAS	BLOWER INLET TEMPERATURE GAGE
ZSC-103	-	LIMIT SWITCH FCV-103 CLOSED
ZSO-103	-	LIMIT SWITCH FCV-103 OPEN
PI-104	LFG GAS	BLOWER DISCHARGE PRESSURE GAGE
BE-105	STACK	ULTRAVIOLET FLAME SCANNER
BSA-105	-	FLAME DETECTOR RELAY
TE-105L	STACK	PILOT THERMOCOUPLE, TYPE K
TE-105H	STACK	FLAME TIP THERMOCOUPLE, TYPE K
TC-105	-	PILOT TEMPERATURE CONTROLLER
[illegible]	-	PILOT OFF RELAY, SOV-107 CLOSED
[illegible]	-	BLOWER ON RELAY
PCV-107	PROPANE	PROPANE GAS PRESSURE REGULATOR
PI-107	PROPANE	PROPANE GAS PRESSURE INDICATOR
SOV-107	PROPANE	PROPANE GAS SHUT-OFF SOLENOID VALVE



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LFG SPECIALTIES, INC.

HEAD OFFICE
7550 LUCERNE DRIVE #110
CLEVELAND, OHIO 44130
(216) 891-0305

PLANT
705 FRIENDSHIP DRIVE
NEW CONCORD, OHIO 43762
(614) 826-7422

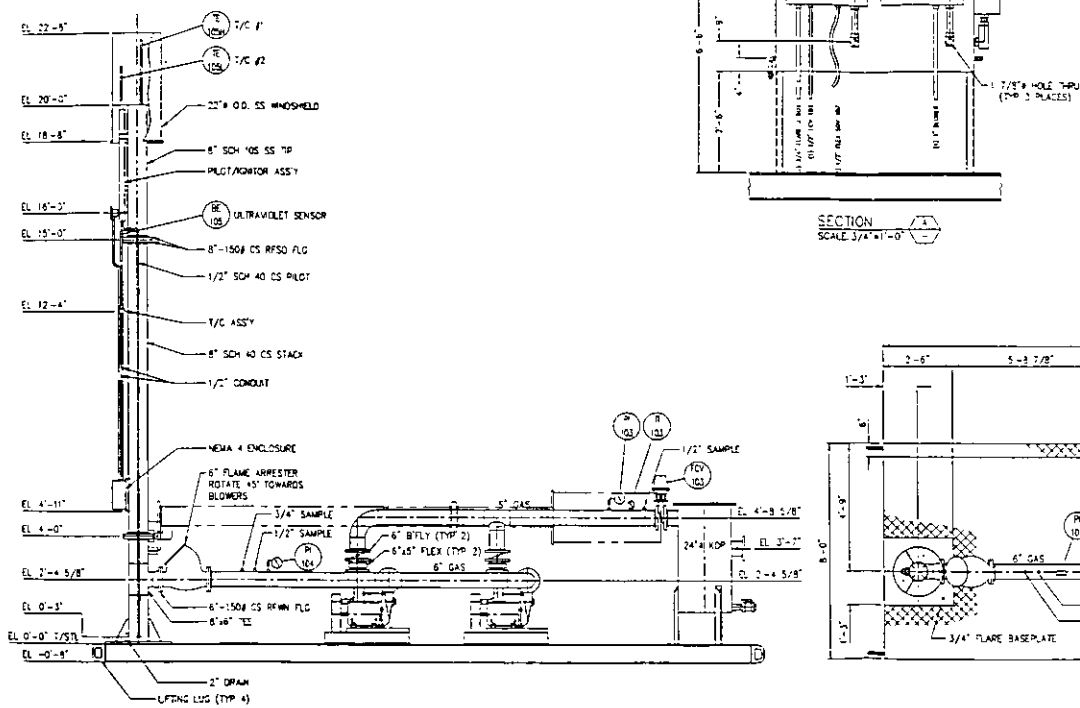
DATE: 07/24/92

TITLE: PIPING AND INSTRUMENTATION DIAGRAM

PROJECT NAME: TYPICAL

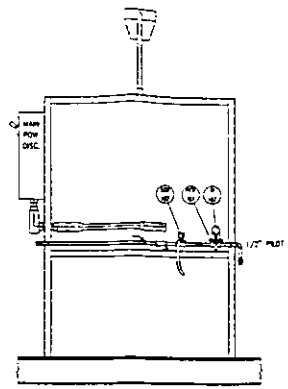
CUSTOMER: LFG SPECIALTIES, INC

DRAWING NUMBER: P595068

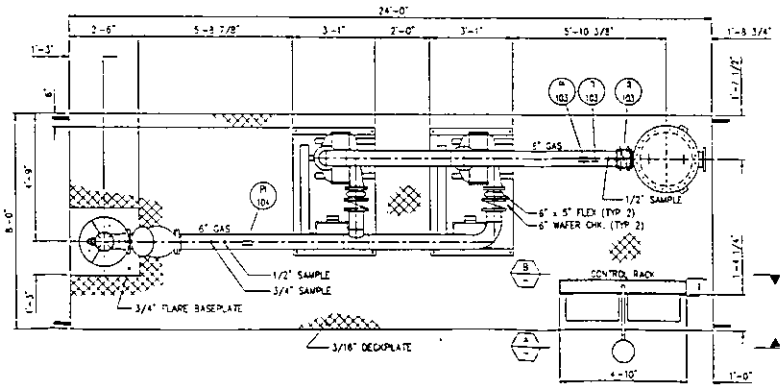


ELEVATION
SCALE 1/2"=1'-0"

SECTION
SCALE 3/4"=1'-0"



SECTION
SCALE 3/4"=1'-0"



PLAN
SCALE 1/2"=1'-0"

REV	DESCRIPTION	DATE	BY

LFG SPECIALTIES, INC.

HEAD OFFICE
7550 LUCERNE DRIVE #110
CLEVELAND, OHIO 44130
(216) 891-0305

PLANT
705 FRIENDSHIP DRIVE
NEW CONCORD, OHIO 43762
(614) 826-7422

ISSUED	07/24/95
DRAWN	
CHECKED	
APPROVED	
P.O.#	
P.O. NUMBER	P5950683

UTILITY FLARE PACKAGE
PLAN, ELEVATION & DETAILS
TYPICAL

LFG SPECIALTIES, INC

DRAWING NUMBER P5950681