STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

December 1, 1983

file

Mr. John Matthews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32630

Dear Mr. Matthews:

Madison County - AP
Biomass Power Corporation
Carbonaceous Fuel Burning Equipment

Enclosed is Permit Number AC40-75860, dated December 1, 1983

to construct the subject pollution source

issued pursuant to Section(s) 403.087, Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Florida Administrative Code Rule 28-5.201 (see reverse side of this letter). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

Frank Watkins, Jr., P.E.
District Engineer

FW:rlk
Enclosure
cc: Gainesville Branch Office
Mr. Henry C. Jobe, P.E.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISION DETERMINING SUBSTANTIAL INTERESTS

PART II
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

(1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should 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, and an explanation of how his/her substantial interests will be affected by the agency determination;

(c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;

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

(f) Other information which the petitioner contends is material.

****

A petition may be denied if the petitioner does not state adequately a material factual allegation, such as a substantial interest in the agency determination, or if the petition is untimely. (Section 28-5.201(3)(a), FAC)

DER Form 17-1.201(7)
Effective November 30, 1982

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

Date: 29-Dec-1995 07:34am EST
From: Johnny Cole JAX
COLE_J
Dept: Northeast District Office
Tel No: 904/448-4310 Ext. 236
SUNCOM: 880-4310x236

TO: Bob Leetch JAX (LEETCH_B)

Subject: LFC in Madison Co.

Bob

My comments are below:

1. This facility is a carbonaceous fuel unit not an incinerator.
2. There is no application for transfer of permit in this office to my knowledge.

Thanks

Johnny

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

Date: 13-Dec-1995 01:51pm EST
From: Jan Rae Clark TAL
CLARK_JR@A1@DER
Dept: Waste Management
Tel No: 904/488-0300
SUNCOM:

TO: TOBER_K@A1@DER
TO: Jan Rae Clark TAL (CLARK_JR@A1@DER)
TO: Christopher Kirts JAX (KIRTS_C@A1@JAX1)
TO: Ed Middleswart PEN (MIDDLESWAR_E@A1@PNS1)

Subject: Re: Memo-Gretna

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>
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>
>
>TO: C. H. Fancy
>
>FROM: A. A. Linero
>
>DATE: December 13, 1995
>
>SUBJ: Gretna Power Corporation
>
>
> The memo you received on November 29, 1995 from Jan Rae Clark
>addresses the sale/lease of two existing MSW incinerators to Gretna
>Power Corporation. The Gretna Power Corporation appears to be the
>City of Gretna. The two facilities subject to transfer of
>ownership are currently permitted by LFC No. 47 Corporation, who is
>listed as the seller. LFC No. 47 Corporation owns an incinerator
>located near Monticello, Jefferson County and near Madison, Madison
>County. They both hold valid operating permits issued by the
>appropriate district office.
>
> We could not determine the permitted capacity of these
>facilities from the ARMS screens. However, the actual emissions
>listed are well below what you would reasonably expect for two
>plants processing a total of 600 tons per day MSW. We may need to
>alert the Northeast and Northwest Districts about these two sites
>to ensure they have the permitted capacity to process this amount
>of work.
>
> If you have any questions, Ed Svec and I will be glad to
>discuss the details.
>
>AAL/kt
>
Kim,

Thanks for the info on the two plants that are being sold. My understanding was that these two plants are bark burners now. Is that right?

Does the City of Gretna have a permit to construct or operate an MSW combustor if they finalize the purchase of these two plants? I was under the impression that they would be dismantling the two plants and moving them to the Gretna location.

Please keep me filled in as you find out more. Many thanks.

Jan Rae

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

Date: 13-Dec-1995 01:48pm EST
From: Ed Middleswart PEN
MIDDLESWAR_E@A1@PNS1
Dept: Northwest District Offi
Tel No: 904/444-8364
SUNCOM:

TO: Kim Tober TAL (TOBER_K@A1@DER)

CC: Jan Rae Clark TAL (CLARK_JR@A1@DER)
CC: Christopher Kirts JAX (KIRTS_C@A1@JAX1)

Subject: RE: Memo-Gretna

Al, ... The LFC boiler near Monticello is a carbonaceous fueled unit permitted at a max. heat input rate of 185MM BTU/hour carbonaceous fuel. Assuming about 4000 BTU/lb. for MSW, the capacity would be sufficient to handle 555 tons/day assuming the feed handling systems, etc. could handle this amount of stuff.

Gretna people talked about a MSW project as a money maker for the town several years ago but the project did not go anywhere. Seems that I remember them proposi [illegible] garbage from all over the state and the issue obvi [illegible] roversial. So far we have not heard anything f [illegible] project being resuscitated for another rou

JC —
PLEASE PREPARE A RESPONSE ABOUT LFC + LETS REVIEW BEFORE IT IS SENT

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

Date: 13-Dec-1995 01:18pm EST
From: Kim Tober TAL
TOBER_K@A1@DER
Dept: Air Resources Management
Tel No: 904/488-1344
SUNCOM:

TO: Jan Rae Clark TAL (CLARK_JR@A1@DER)
TO: Christopher Kirts JAX (KIRTS_C@A1@JAX1)
TO: Ed Middleswart PEN (MIDDLESWAR_E@A1@PNS1)

Subject: Memo-Gretna

I am sending you this memo via Clair Fancy.

If you have any comments, please E-Mail them to Charlotte Hayes or call Al Linero.

Thanks,

kim tober

TO: C. H. Fancy

FROM: A. A. Linero

DATE: December 13, 1995

SUBJ: Gretna Power Corporation

The memo you received on November 29, 1995 from Jan Rae Clark addresses the sale/lease of two existing MSW incinerators to Gretna Power Corporation. The Gretna Power Corporation appears to be the City of Gretna. The two facilities subject to transfer of ownership are currently permitted by LFC No. 47 Corporation, who is listed as the seller. LFC No. 47 Corporation owns an incinerator located near Monticello, Jefferson County and near Madison, Madison County. They both hold valid operating permits issued by the appropriate district office.

We could not determine the permitted capacity of these facilities from the ARMS screens. However, the actual emissions listed are well below what you would reasonably expect for two plants processing a total of 600 tons per day MSW. We may need to alert the Northeast and Northwest Districts about these two sites to ensure they have the permitted capacity to process this amount of work.

If you have any questions, Ed Svec and I will be glad to discuss the details.

AAL/kt

Department of Environmental Regulation

Routing and Transmittal Slip

To: (Name, Office, Location)

1.

2. 08/03/95 during lunch

3.

4. JC

Remarks:

Woody Cooper, Mgr

LFC Power

904-997-0575

~ 1:50 I called; told him permit is eft'd by rule.

From:	Date
	Phone

```
AIR041 31GVL40001101 PM  012495   AIR PROGRAM INFORMATION SYSTEM          06/02/95
                                      SOURCE TEST RECORD                  07:47:23
FACIL: OWN: LFC NO. 47 CORP.     N/L: CR 591, 1.5 MI N    LAST UPDATED: 05/05/95
     # SRC: 001  MAJOR FAC: Y   CITY: MADISON               STATUS: A = ACTIVE
SOURC DESC: BOILER (CARBONACEOUS FUEL) W/MULTICLONE & VENTURI SCRUBBER
PERMIT/PPS: AO40-179441              MAJOR SRC: Y            STATUS: A = ACTIVE
 NSPS: ...    NESHAP: ... 40CFR70: ...    PSD: ...    NAA/NSR: ...    RACT: ...

CURRENT TEST DATE: 01 / 24 / 95         NEXT TEST DATE: 01 / 24 / 96
TEAM NAME: PENSACOLA POC INC
   MAX PROCESS RATE: .......   ACTUAL: 0000170   UNITS: MMBTUH AVG
MAX PRODUCTION RATE: .......   ACTUAL: _______   UNITS: KPPH STEAM 9MWG
POLLUTANT ID: PM  = PARTICULATE MATTER - TOTAL            TEST PASS? N (Y/N/I)
PERMIT ALLOWABLE EMIS: 00037 . 000000       UNITS: LB/HR
TEST ALLOW EMIS: 00032 . 193000    TEST ACT EMIS: 00033 . 163000
UNITS: LB/HR                    AUDIT TYPE: 2 = TYPE II-PARTIAL SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 003 . 01 SIGN: +
COMMENTS: 282-342MG 42DSCF 32KDSCFM 54KACFM 640R 4.5%O2 25%H20
          173,177,161 MMBTUH 0.189#/MMBTU ALLOW 0.195#/MMBTU TESTED
          OBSRVED RUNS 1&2 600GPM H2O(11G/ACFM) 5"H2O DP
MORE SOURCE TESTS ON FILE?  YES
7977230338                                  ACTION TAKEN:  TRANSMIT HERE:
AIR041 31GVL40001101 PM  012495   AIR PROGRAM INFORMATION SYSTEM          06/02/95
                                      SOURCE TEST RECORD                  07:47:23
FACIL: OWN: LFC NO. 47 CORP.     N/L: CR 591, 1.5 MI N    LAST UPDATED: 05/05/95
     # SRC: 001  MAJOR FAC: Y   CITY: MADISON               STATUS: A = ACTIVE
SOURC DESC: BOILER (CARBONACEOUS FUEL) W/MULTICLONE & VENTURI SCRUBBER
PERMIT/PPS: AO40-179441              MAJOR SRC: Y            STATUS: A = ACTIVE
 NSPS: ...    NESHAP: ... 40CFR70: ...    PSD: ...    NAA/NSR: ...    RACT: ...

CURRENT TEST DATE: 01 / 24 / 95         NEXT TEST DATE: 01 / 24 / 96
TEAM NAME: PENSACOLA POC INC
   MAX PROCESS RATE: .......   ACTUAL: 0000170   UNITS: MMBTUH AVG
MAX PRODUCTION RATE: .......   ACTUAL: _______   UNITS: KPPH STEAM 9MWG
POLLUTANT ID: PM  = PARTICULATE MATTER - TOTAL            TEST PASS? N (Y/N/I)
PERMIT ALLOWABLE EMIS: 00037 . 000000       UNITS: LB/HR
TEST ALLOW EMIS: 00032 . 193000    TEST ACT EMIS: 00033 . 163000
UNITS: LB/HR                    AUDIT TYPE: 2 = TYPE II-PARTIAL SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 003 . 01 SIGN: +
COMMENTS: 282-342MG 42DSCF 32KDSCFM 54KACFM 640R 4.5%O2 25%H20
          173,177,161 MMBTUH 0.189#/MMBTU ALLOW 0.195#/MMBTU TESTED
          OBSRVED RUNS 1&2 600GPM H2O(11G/ACFM) 5"H2O DP
MORE SOURCE TESTS ON FILE?  YES
7977230338                                  ACTION TAKEN: _ TRANSMIT HERE: P_
```

06/02 $Test_{AL} = 170 \times .2 = 34.0$

$Test_{AC} = 33.16$

5/31 ~ 2:20
He called.
Try to this
wk.
5/31 ~ 3:40 VT
no info

To Date 5/31

5/25 ~ 8:50

M. Burr !

~~status~~ of

OP.

~ 1 wk mail.

WHILE YOU WERE TIME

05/19 ~ 10:40 left msg on
machine

~ 3:09 M Burr called,
said Mort said
in compliance,
When will we do
OP?

4/27 am
DB said he
called 4/26 pm

Madison Co. - AP
LFC
~~Wood~~ Biomass Blr
CP mod request (rec'd 5/28) review

04-20-95
Request is to increase lb/MMBTU
from 0.189 to 0.2
emis lbs/hr increase =
$185 \frac{MMBTU}{hr} (0.2 - 0.189) = 2$ lbs/hr

TPY increase = $\frac{2 \mid 24 \mid 7 \mid 50}{2000} = 8.4$

4/19
4/20 am
calc emis chg.

4/7 ~ 1:10
I called.
He has sent
mod AOP to
PE.
He will call PE
about it.

Water and Air Research, Inc.
CONSULTING ENVIRONMENTAL ENGINEERS, SCIENTISTS AND PLANNERS

6821 S.W. ARCHER ROAD • GAINESVILLE, FLORIDA 32608 • TELEPHONE (904) 372-1500 • FAX (904) 378-1500

April 6, 1995

Mr. Johnny L. Cole
Air Program
Florida Department of Environmental Protection
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256-7577

Dear Mr. Cole:

Enclosed are three original and sealed copies of an application for air permit to operate LFC Power Systems Corp. Madison Biomass Plant located near Madison, FL. If you need any additional information, please contact me.

Sincerely,

William C. Zegel, Sc.D., P.E.

WCZ:ljc

cc: Ernest E. Frey, Dir. Dist. Mgmt.
Robert Leetch, Industrial Waste
Morton Benjamin, Air Programs

Department of Environmental Protection

file

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - SHORT FORM

See Instructions for Form No. 62-210.900(2)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form provides general information on the scope of this application and the purpose for which this application is being submitted. This section also includes information on the owner or authorized representative of the facility and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department on diskette, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility name, if any; and a brief reference to the facility's physical location. If known, also enter the ARMS or AIRS facility identification number. This information is intended to give a quick reference, on the first page of the application form, to the facility addressed in this application. Elsewhere in the form, numbered data fields are provided for entry of the facility data in computer-input format.

LFC No. 47 Corp.
Madison Biomass Plant
Madison County

I.D. No. 31 GVL 40 001101

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative:

   David J. Brown, V.P. Field Operations

2. Owner/Authorized Representative Mailing Address:

   Organization/Firm: LFC No. 47 Corp.
   Street Address: 4000 Kruse Way Place, Bldg. 1, Suite 255
   City: Lake Oswego State: OR Zip Code: 97035

3. Owner/Authorized Representative Telephone Numbers:
   Telephone: (503) 697 - 1736 Fax: (503) 697 - 0288

4. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility (non-Title V source) addressed in this Application for Air Permit. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. If the purpose of this application is to obtain an air operation permit or operation permit revision for one or more emissions units which have undergone construction or modification, I certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

   Signature

   3/15/95
   Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID	Description of Emissions Unit
31 GVL 40 001101	Carbonaceous fuel fired boiler

Purpose of Application

This Application for Air Permit is submitted to obtain (check one):

[ ] Initial air operation permit for one or more existing, but previously unpermitted, emissions units.

[X] Initial air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number: AC 40-248258

[ ] Air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number: _____

Operation permit to be revised: _____

[ ] Air operation permit renewal.

Operation permit to be renewed: _____

Application Processing Fee

Check one:

[ ] Attached - Amount: $_____ [X] Not Applicable.

Construction/Modification Information

1. Description of Alterations:

   A. Increase heat input to 185 mmBtu/hr.
   B. Increase operating hours to 8400 hrs/yr.
   C. Increase particulate emissions to 37 lbs/hr.

2. Date of Commencement of Construction (DD-MON-YYYY):

   N/A

Professional Engineer Certification

1. Professional Engineer Name: William C. Zegel, P.E.

   Registration Number: 23465

2. Professional Engineer Mailing Address:

   Organization/Firm: Water and Air Research, Inc.
   Street Address: 6821 S.W. Archer Road
   City: Gainesville State: FL Zip Code: 32608

3. Professional Engineer Telephone Numbers:
   Telephone: (904) 372 - 1500 Fax: (904) 378 - 1500

4. Professional Engineer Statement:

   I, the undersigned, hereby certify, except as particularly noted herein, that:*

   (1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

   (2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

   William C. Zegel, PE — April 6, 1995
   Signature FL PE 23465 Date

   (seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:

   David J. Brown, V.P. Field Operations

2. Application Contact Mailing Address:

   Organization/Firm: LFC No. 47 Corp.
   Street Address: 4000 Kruse Way Pl., Bldg. 1, Suite 255
   City: Lake Oswego State: OR Zip Code: 97035

3. Application Contact Telephone Numbers:
   Telephone: (503) 697 - 1736 Fax: (503) 697 - 0288

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Name, Location, and Type

1. Facility Owner or Operator:
   LFC No. 47 Corp.
2. Facility Name:
   Madison Biomass Plant
3. Facility Identification Number: [ ] Unknown
   31 GVL 40001101
4. Facility Location Information:
   Facility Street Address: CR 591
   City: 1.5 mi. N. of Madison County: Madison Zip Code: 32340
5. Facility UTM Coordinates:
   Zone: 17 East (km): 240.1 North (km): 3376.5
6. Facility Latitude/Longitude:
   Latitude (DD/MM/SS): 30° 30'00" N Longitude (DD/MM/SS): 83° 23'45" W

7. Governmental Facility Code:	8. Facility Status Code:	9. Relocatable Facility?	10. Facility Major Group SIC Code:
0	A	[ ] Yes [x] No	49

11. Facility Comment:

Facility Contact

1. Name and Title of Facility Contact:
   David J. Brown, V.P. Field Operations
2. Facility Contact Mailing Address:
   Organization/Firm: LFC No. 47 Corp.
   Street Address: 4000 Kruse Way Pl., Bldg. 1, Suite 255
   City: Lake Oswego State: OR Zip Code: 97035
3. Facility Contact Telephone Numbers:
   Telephone: (503) 697 - 1736 Fax: (503) 697 - 0288

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [X] No [ ] Unknown
2. Title V Source? [ ] No Yes
3. Synthetic Non-Title V Source by Virtue of Previous Air Construction Permit? [ ] Yes [X] No Construction Permit Number/Issue Date: _____
4. Facility Regulatory Classifications Comment:

B. FACILITY SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the facility as a whole. (Supplemental information related to individual emissions units within the facility is provided in Subsection III-B of the form.) Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: [ ] Attached, Document ID: A [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [ ] Attached, Document ID: B [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [ ] Attached, Document ID: C [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A and B) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

Check one:

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 1 of 1

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section:
   Carbonaceous fuel-fired boiler

2. ARMS Identification Number: [ ] No Corresponding ID [ ] Unknown
   31 GVL 40001101

3. Emissions Unit Status Code: A

4. Emissions Unit Major Group SIC Code: 49

5. Initial Startup Date (DD-MON-YYYY): 24-July-1985

6. Long-term Reserve Shutdown Date (DD-MON-YYYY): N/A

7. Package Unit:
   Manufacturer: Bigelow Model Number: KVS-2836

8. Generator Nameplate Rating: 8.5 MW net

9. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature : °F

10. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Description:

   A. Multiclone dry collector
   B. Wet Venturi Scrubber + vertical separator

2. Control Device or Method Code(s):

   008; 002

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		185	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr		tons/day
3. Maximum Process or Throughput Rate:	20.56 tons		
4. Maximum Production Rate:	8.5 MW net		

5. Operating Capacity Comment:

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:

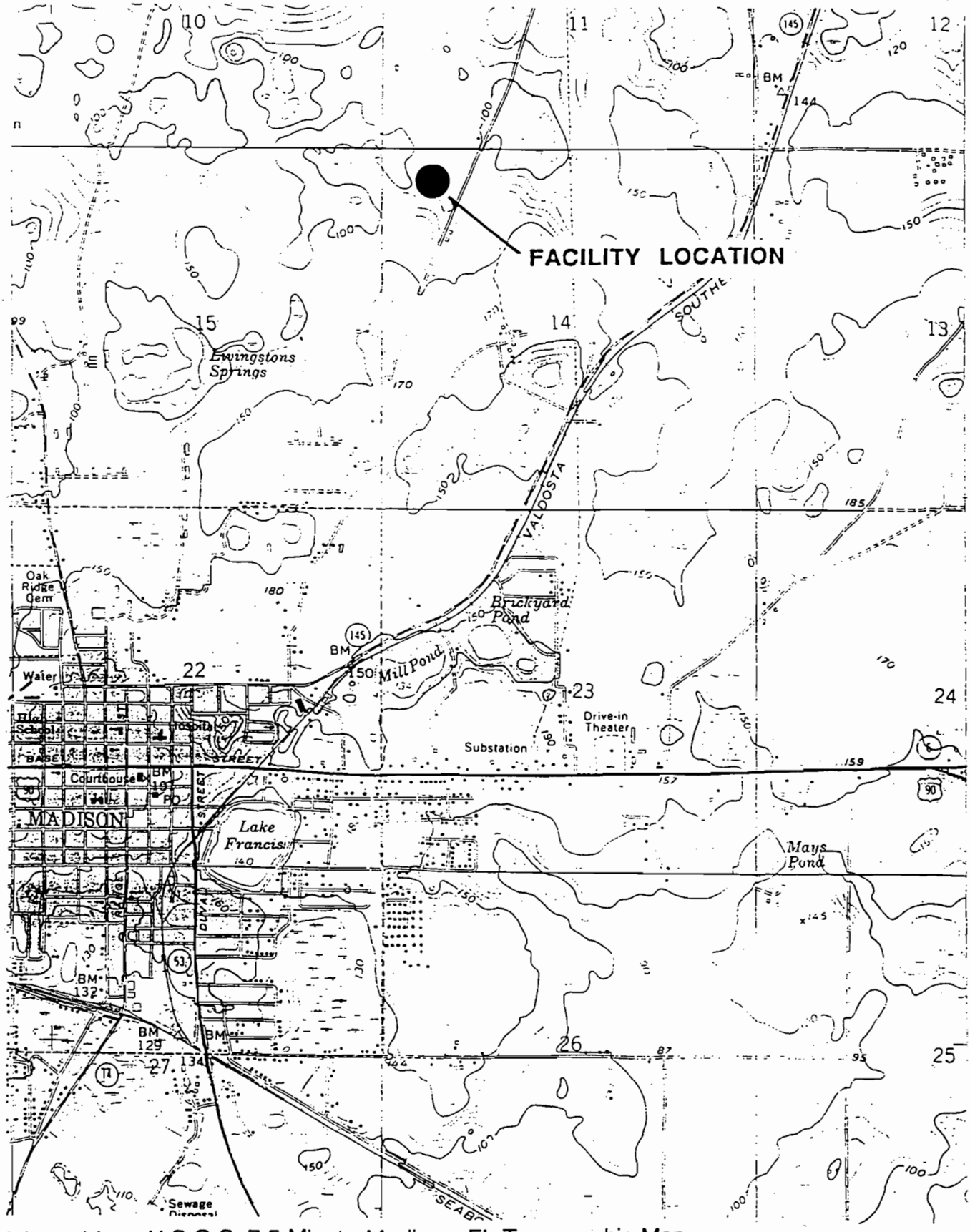
	hours/day		days/week
	weeks/year	8400	hours/year

B. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

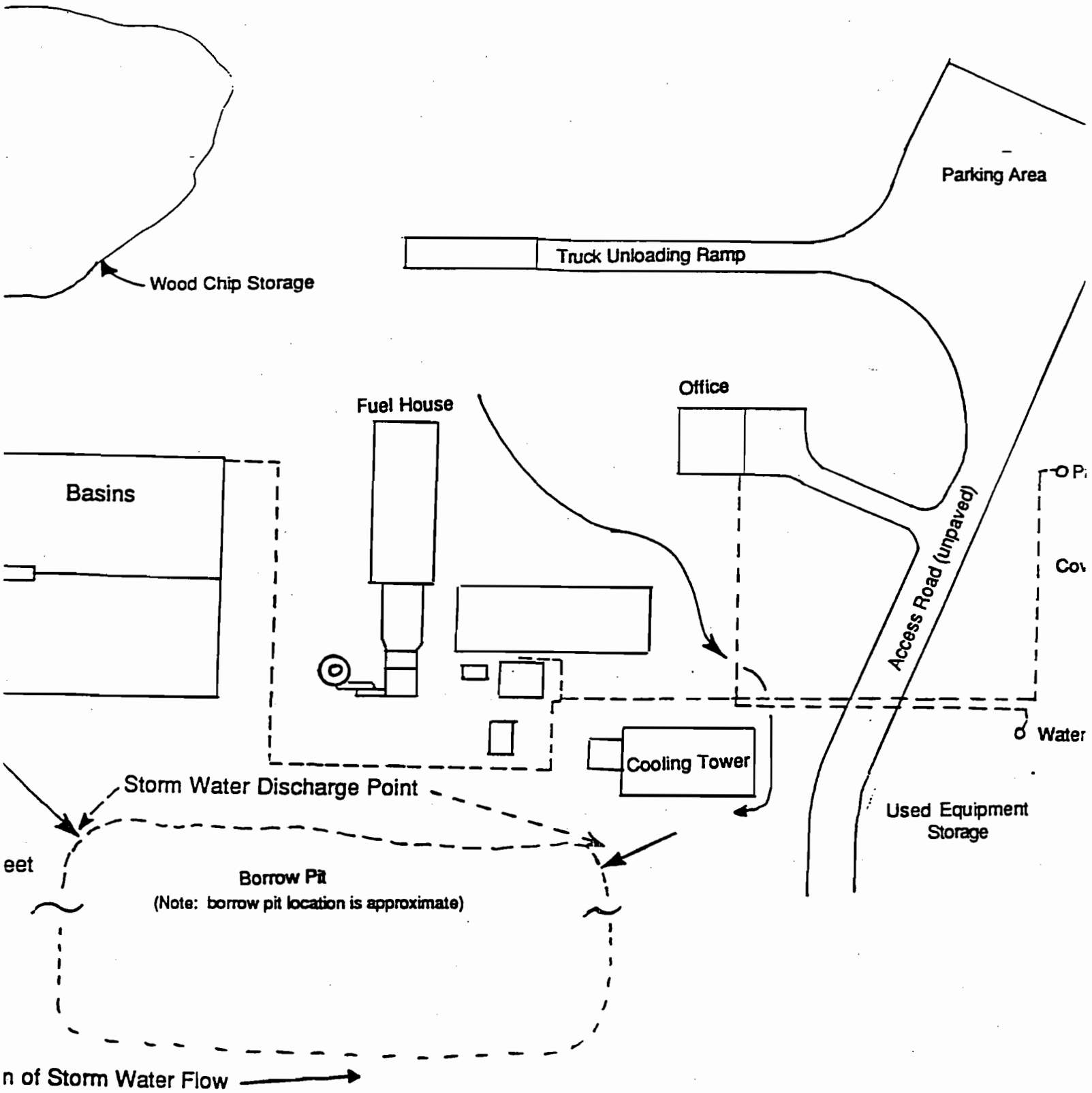
1. Process Flow Diagram [ ] Attached, Document ID: C [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID: D [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: E [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID: F [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously submitted, Date: 02/15/95 [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: G [ ] Not Applicable
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable
8. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable



Adapted from U.S.G.S. 7.5 Minute Madison, FL Topographic Map

93C0375A	Location Map	LFC Power Systems Corporation Madison, Florida	Figure 1
Woodward-Clyde Consultants			

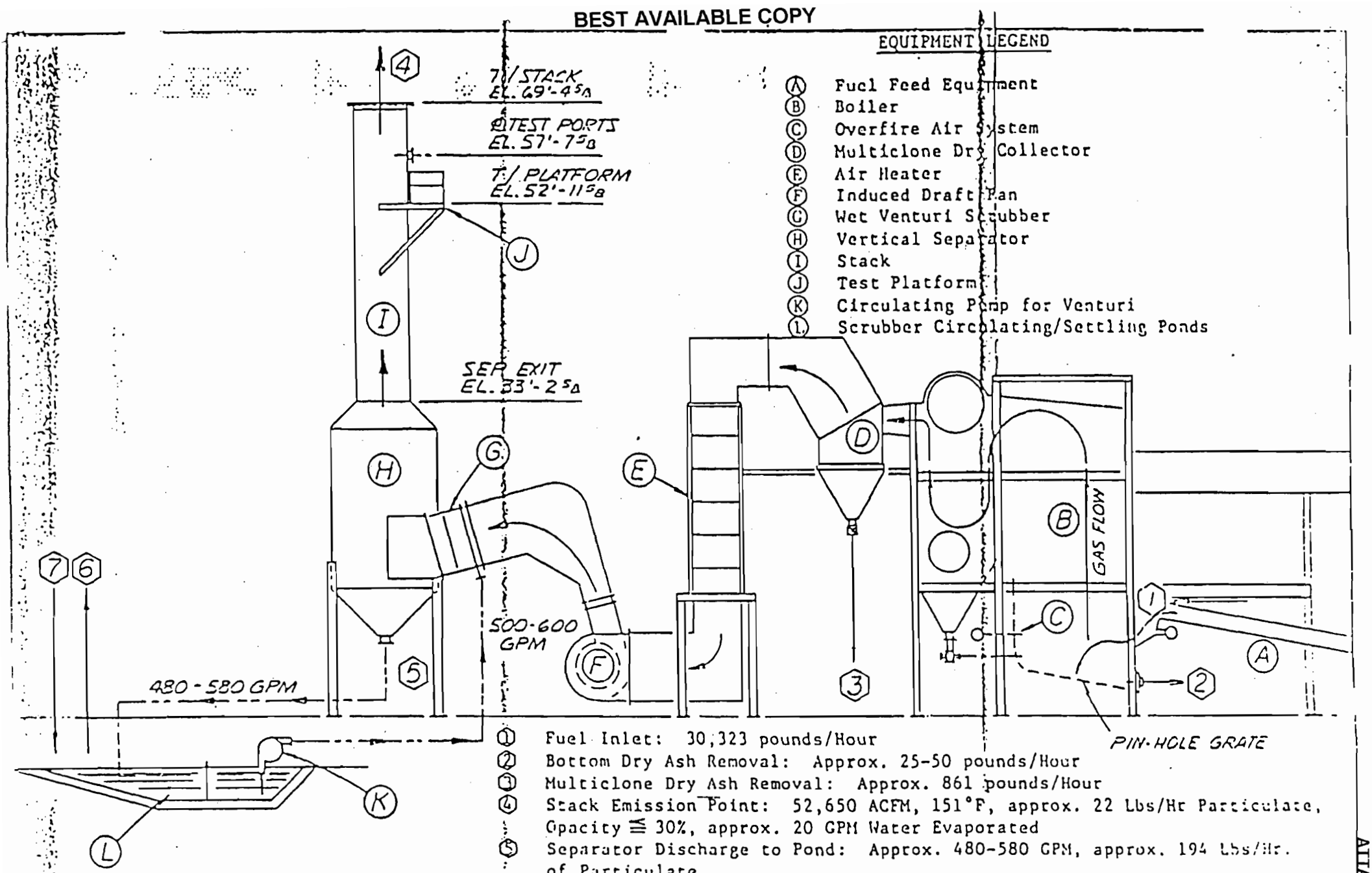
ATTACHMENT B



does not have plumbed storm drain system.

acility is unpaved. Building roofs and concrete pads are the only impermeable surfaces.

93C0375A	Facility Map
Woodward-Clyde Consultan	



① Fuel Inlet: 30,323 pounds/Hour
② Bottom Dry Ash Removal: Approx. 25-50 pounds/Hour
③ Multiclone Dry Ash Removal: Approx. 861 pounds/Hour
④ Stack Emission Point: 52,650 ACFM, 151°F, approx. 22 Lbs/Hr Particulate, Opacity ≦ 30%, approx. 20 GPM Water Evaporated
⑤ Separator Discharge to Pond: Approx. 480-580 GPM, approx. 194 Lbs/Hr. of Particulate
⑥ Semi-Dry Ash Removal from Pond: Approx. 782 Tons/Year
⑦ Make-up Water from C.T. Blowdown & Equipment Room Drains: Approx. 20 GPM

BIOMASS POWER CORP.
MADISON, FLA.

ATTACHMENT C

ATTACHMENT D

FUEL ANALYSIS

1.	Density	20-25 lbs/cf
2.	Heat Value	4500 Btu/lb
3.	Percent Sulfur	0%
4.	Percent Nitrogen	0.22%
5.	Percent Ash	3.0%

ATTACHMENT E

DESCRIPTION OF CONTROL EQUIPMENT

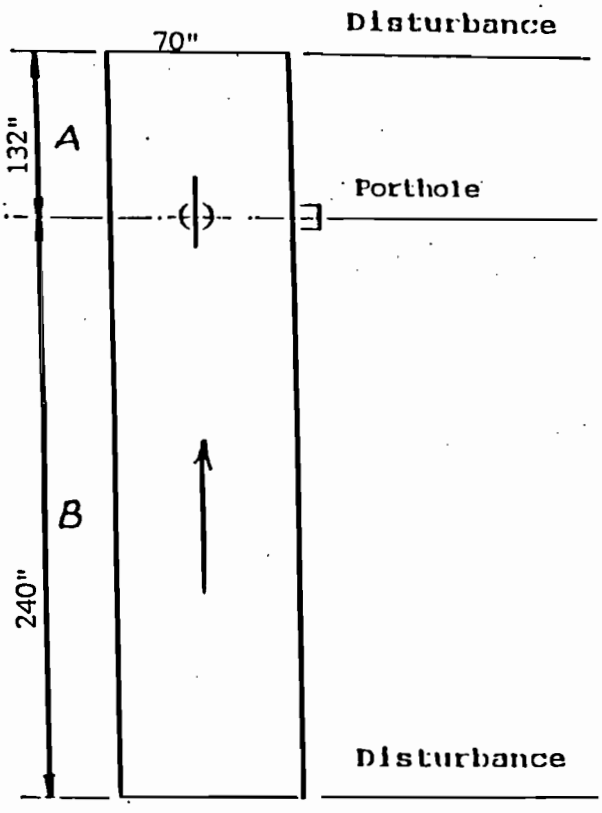
Particulate emission pollution control equipment consists of a dry multiclone dust collector (Western Precipitation 12VM35, size 50-5) and wet venturi/vertical separator (Perry Smith Co., Model 80M).

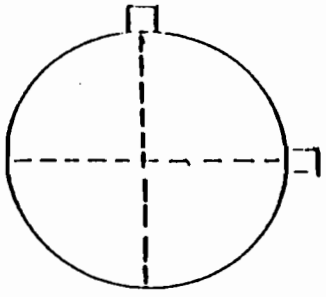
ATTACHMENT F

STACK SAMPLING FACILITY

The stack sampling facility is as shown in the attached figure. Sampling ports, work platforms, means of access and equipment support structures comply with FAC 62-297.345.

Client : LFC Power Systems Corporation
Location : Madison, FL
Source : Boiler Scrubber Exhaust





Pt. No.	Distance (")
1.	1.5
2.	4.7
3.	8.3
4.	12.4
5.	17.5
6.	24.9
7.	45.1
8.	52.5
9.	57.6
10.	61,7
11.	65.3
12.	68.5

A = 132/70 = 1.9

B = 240/70 = 3.4

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

Sampling Points Locations

ATTACHMENT G

PROCEDURES FOR STARTUP AND SHUTDOWN

During periods of startup, the following procedure is practiced:

1. The venturi scrubber pumps are initiated once the boiler is fired-off.

2. The stack emissions are visually inspected periodically for excess emissions.

3. In the event of excess emissions, the plant operator will adjust the fuel-air ratio by operating the fan dampers to mitigate any exceedance condition.

During periods of shutdown, the following procedure is practiced:

1. The venturi scrubber continues to be operated until the possibility of excess emissions no longer exists.

2. The stack emissions are visually inspected periodically for excess emissions.

3. In the event of excess emissions, the plant operator will adjust the fuel-air ratio by operating the fan dampers to mitigate any exceedance condition.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

July 24, 1985

file

Mr. John Matthews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32630

Dear Mr. Matthews:

Madison County - AP
Biomass Power Corporation
Boiler (Carbonaceous Fuel Fired)

Attached is Permit No. AO40-105817. Should you object to the issuance of this permit or the specific conditions of the permit, you have a right to petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes.

The petition must be filed within fourteen (14) days from receipt of this letter. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code, (copies 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 an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witnesses and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions 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.

Sincerely,

Frank Watkins

Frank Watkins, Jr., P.E.
District Engineer

FW:jck

cc: Martin H. Rasmussen. P.E.
Gainesville Branch Office

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

PERMITTEE:
Biomass Power Corporation
145 Camp Drive
Dunnellon, FL 32630

I.D. Number:	3140001101
Permit/Certification Number:	AO40-105817
Date of Issue:	July 24, 1985
Expiration Date:	July 24, 1990
County:	Madison
Latitude/Longitude:	30°30'00"N; 83°23'45"W
Project:	Boiler (carbonaceous fuel fired)
UTM:	E-(17)270.1; N-3376.5

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 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 drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of a carbonaceous fuel-fired boiler with the particulate matter (PM) emissions controlled by a multiclone and a venturi scrubber in series. The heat input rate shall not exceed 136.18 MMBTU per hour.

Located on CR 591, 1.5 miles north of Madison, Madison County, FL.

In accordance with:

Construction permit application dated September 16, 1983
Certificate of Completion of Construction form dated June 19, 1985.

PERMITTEE:
Biomass Power Corporation

Permit/Certification Number: AO40-105817
Date of Issue: July 24, 1985
Expiration Date: July 24, 1990

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 pollutuion in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

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 noncompliance; 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.

   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 noncompliance 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:

   ( ) Determination of Best Available Control Technology (BACT)
   ( ) Determination of Prevention of Significant Deterioration (PSD)
   ( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
   ( ) 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.

    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 period of 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.

PERMITTEE:
Biomass Power Corporation

Permit No.: AO40-105817
Date of Issue: July 24, 1985
Expiration Date: July 24, 1990

SPECIFIC CONDITIONS:

1. The maximum input rate (operating rate) is 136.18 MMBTU per hour and shall not be exceeded without prior approval.

2. Testing of emissions must be performed at an operating rate of at least 90% of the rate in Specific Condition (SC) No.1, or SC No. 3 will become effective.

3. The operating rate shall not exceed 110% of the operating rate during the most recent test except for testing purposes, but shall not exceed the rate in SC No. 1. After testing at an operating rate greater than 110% of the last test operating rate, the operating rate shall not exceed 110% of the last (submitted) test operating rate until the test report at the higher rate has been reviewed and accepted by the Department.

4. The permitted maximum allowable emission rate for each pollutant is as follows:

Pollutant	Regulation	Emission Rate lbs/hr	TPY
Particulate Matter	Sect. 17-2.600(10)(b)2.b., FAC	24.65*	99*
Visible Emission	Sect. 17-2.600(10)(b)2.a., FAC	30% opacity, except 40% for 2 mins/hr.	

*Based on 0.181 lb/MMBTU (not 0.2) so that TPY <100

5. Test the emission for the following pollutant(s) at the interval(s) indicated from the date of May 16, 1985, notify us 14 days prior to testing, and submit the test report documentation to this office within 45 days after completion of the testing:

Pollutant	Interval
Particulate Matter	6 months
Visible Emissions	6 months

Tests and test reports shall comply with the requirements of Florida Administrative Code Rule 17-2.700(6) and (7), respectively.

6. Submit an annual operation report for this source on the form supplied by the Department for each calendar year on or before March 1.

7. Any revision (s) to a permit (and application) must be submitted and approved prior to implementing.

PERMITTEE:

Permit No.: AO40-105817
Date of Issue: July 24, 1985
Expiration Date: July 24, 1990

8. Hours of operation per year shall not exceed 8064.

9. Forms for renewal will be sent 5 months prior to July 24, 1990 and the completed forms with test results are due 90 days prior to July 24, 1990.

Issued this 24 day of July, 1985

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Ernest E. Frey

Ernest E. Frey, District Manager

This is to certify that this document was mailed to the applicant, interested parties or their attorneys and persons who have requested in writing notice of the agency's action or proposed action before the close of business on the date indicated below:

Date: 7/25/85

Ernest E. Frey

Ernest E. Frey, District Manager

[illegible] pursuant to [illegible] the designated [illegible] is hereby acknowledged.

Clerk 7/25/85 Date

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ERNEST E. FREY
DISTRICT MANAGER

June 21, 1985

Mr. John Matthews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32630

Dear Mr. Matthews:

Madison County - AP
Biomass Power Corporation
Wood Boiler

The Department is in receipt of the June 18, 1985 permit extension request for the wood boiler, permit No. AC40-75860 by M. H. Rasmussen, P.E. The request is approved and the permit is revised as follows:

Expiration date:

From: June 30, 1985

To: December 30, 1985

Attachment:

June 18, 1985 letter by M. H. Rasmussen

This letter and attachment must be attached to permit No. AC40-75860 and shall become a part of that permit.

Sincerely,

for Ernest E. Frey
District Manager

EEF:jck

cc: M. H. Rasmussen

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

May 30, 1984

jele

Mr. John Matthews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32630

Attention: Mr. John Matthews

Re: Air Pollution Source Construction Permit #AC40-75860
Biomass Power Corporation - Madison Plant
WMBCE No. 3101.3

Dear Mr. Matthews:

As per the request submitted May 4, 1984 by William P. Adams, P.E., your construction permit #AC40-75860 is hereby amended to have an expiration date of June 30, 1985.

Please be advised that the Gainesville office must be notified in writing within ten (10) days of start-up of the facility to arrange for compliance testing.

Should you have questions or wish to discuss please contact G. A. DeMuth at 904-377-7528.

Sincerely,

Frank Watkins, P.E. III

FW:ehw

cc G. A. DeMuth, Eng IV
William P. Adams, P. E.
R. P. Vogh, P.E. II

LFC POWER SYSTEMS CORPORATION

March 24, 1995

Mr. Johnny Cole
Florida Department of Environmental Protection
Northeast District
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256-7577

RE: LFC NO. 47 CORP. BIOMASS FACILITY
MADISON COUNTY
AC 40-248258/255641
I.D. No. 31GVL 40001101

Dear Mr. Cole:

This letter is in response to Mr. Robert Leetch's March 16, 1995, letter to me. On behalf of LFC No. 47 Corp., we hereby request that: 1) Construction Permit #CP AC40-248258 be extended to July 31, 1995, in order to allow for the modification of the subject permit; 2) Construction Permit #CP AC40-248258 be modified to increase the particulate matter emission rate limit from 35 lbs/hr to 37 lbs/hr as allowed by FAC Rule 62-296.410 (2)(b)2.

Enclosed is a check for $300.00 to cover the $50.00 extension fee and the $250.00 modification fee. Also enclosed are two additional copies of this letter, per FDEP requirements.

We are working with Mr. Mort Benjamin of the FDEP Northeast District office to resolve the enforcement issue as per our March 21, 1995, letter to him. A copy was also sent to you.

Finally, we will submit, under separate cover, the Short Form application to apply for the operation permit to be modified as requested earlier in this letter.

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

If you have any questions regarding this request, please feel free to call me or Mr. Dave Brown at (503) 636-9620.

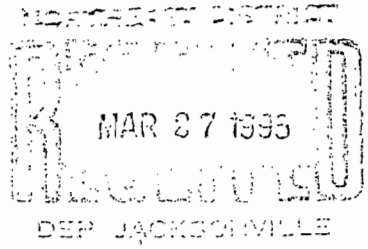
Sincerely,

Myron W. Burr
Compliance Manager

MWB514.Let
Enclosures

cc: Mr. Mort Benjamin - FDEP, Northeast District
Mr. Robert Leetch, FDEP, " "
Mr. Dave Brown - LFC
Ms. Margie King - LFC
Ms. Paula Lausa - LFC
Mr. Pat McAllister - LFC
Mr. Glenn Rollo - LFC

POWER
SYSTEMS
CORPORATION



March 21, 1995

Mr. Mort Benjamin
Florida Department of Environmental Protection
Northeast District
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256-7577

Re: Stack Test Issue
LFC No. 47 Corp. Biomass Facility
Madison County
AC 40-248258
I.D. No. 31GVL 40001101
Warning Letter # WL 95-0003AP40NED

Dear Mr. Benjamin:

We received the subject Warning Letter on March 20, 1995, and responded as instructed by contacting Ms. Judy Tatum of your office on March 21, 1995. Ms. Tatum advised that we contact you to discuss possible resolutions of this issue.

We called you later that day and provided the following background:

1. Last year we requested a permit modification to increase the heat input and number of hours of operation.

2. We believed that we could meet a lower particulate emission limit than allowed under Florida regulations [FAC Rule 62-296.410(2)(b)2; 0.2 lbs/mmBtu]. Therefore, we applied for a limit of 0.189 lbs/mmBtu.

3. During January 1995 we conducted a preliminary stack test and, based on the results of this test, believed that we were in compliance with the permit limits as we understood them.

4. We, therefore, proceeded to conduct a final stack test and again concluded that the results were in compliance with the permit. Had we concluded otherwise, we would not have gone to the unnecessary expense of completing the test, and then finalizing and submitting the report.

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

5. The Madison biomass facility did not operate for 11 months of 1994 and is currently shut down with no firm future plans for operation. Therefore, the plant is not a significant source of air emissions. Additionally, any attempt to re-start the plant for the purpose of conducting a stack test would create a severe hardship on this organization.

6. In order to explore other resolutions to this issue, we contacted the District permitting office to see if a procedural mechanism was an option. We discussed with Mr. Johnny Cole the idea of modifying the permit to use the allowed emissions margin that we had previously elected not to use. We could then demonstrate compliance with the permit using the previously submitted stack test. Mr. Cole indicated that the idea had merit and indicated that he would include this as an option in future correspondence to us. (We received a request for additional information from Mr. Robert Leetch shortly after my teleconference with you.)

You indicated during our teleconference that we had an unusual situation and FDEP would not require us to restart the plant in order to re-test. You suggested that we submit the above-described permit modification proposal to FDEP in response to the subject Warning Letter. Please consider this letter as: 1) our response to the Warning Letter and 2) the proposal that you requested.

In addition, we will respond to Mr. Leetch's letter and pay the fees as requested in order to resolve the stack test issue and to obtain a suitable operating permit.

We trust that these steps will satisfactorily address your concerns. Please advise me if there is any additional information that you may require.

Sincerely,

for David J. Brown
V.P., Field Operations

DJB1066.Let:jsm

cc: Mr. Johnny Cole - FDEP, Northeast District
Mr. Ernest Frey - FDEP, " "
Mr. Robert Leetch - FDEP, " "
Ms. Judy Tatum - FDEP, " "
Mr. M. Burr - LFC
Ms. Margie King - LFC
Ms. Paula Lausa - LFC
Mr. Pat McAllister - LFC
Mr. G. Rollo - LFC

Department of Environmental Protection

Lawton Chiles
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

Virginia B. Wetherell
Secretary

CERTIFIED - RETURN RECEIPT

March 16, 1995

Mr. Myron Burr, Compliance Manager
LFC No. 47 Corporation
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, Oregon 97035

Dear Mr. Burr:

Madison County - AP
LFC No. 47 Corp.

ID #	/ Project	/ Application No.
31GVL40001101	/ Carb. Boiler	/ 255641

In accordance with Section 62-4.055(1) (formerly 17-4), Florida Administrative Code (FAC), and Chapter 120, Florida Statutes, (F.S.), the Department has reviewed the subject application and has determined that the following information is needed before the application can be further processed:

1. Request an extension of CP# AC40-248258 and include the $50.00 fee by March 31, 1995.
2. Submit a request to modify CP# AC40-248258 to increase particulate matter rate to the rate in FAC Rule 62-296.410(2)(b)2. as described in the 03/14 telecon and include the $250.00 fee by 04-30-95.
3. Resolution of the enforcement issue shall be completed before the request to modify CP# AC40-248258 can be determined complete.
4. Submit the enclosed application (Short Form) to apply for the operation permit to be modified at the rate proposed in item #2 aboved by 04-30-95.

The subject application cannot be processed and will be held in abeyance to allow for supplement or amendment until the above requested information is provided.

All information requested must be submitted by the applicant or authorized representative and certified by the professional engineer named in the application. Three copies of the requested information must be submitted.

If you have any questions concerning this matter, please contact Johnny Cole at (904) 448-4310, Ext. 236.

Sincerely,

Robert J. Leetch, P.E.
District Air Program

RJL:JLC

Enclosure: Application (Short Form)

cc: William C. Zegel, P.E.

Madison Co. - AP
LFC
Wood Boiler
Add'l info (rec'd 2/21) review

03-14-95
02/23 CK & MB plan enfor.
BL & d agreed send another RAI.
03/13 Per BL
1. see MB about test per enfor.
2. request eft.
This am plan enfor & require another test when s/u.
Prepared RAI
Per BL phone note, M. Burr called 3/13 ~ 4:44.
This am ~ 10:45 d' called; left msg w/
M. Burr sec'y. ✓
~12:50 M. Burr called; discussed
1. ~~retest~~ - too costly
2. plan to request change lb/MMBTU to 0.2 (from 0.189). d said send mod to CP w/ $250
3. d said request CP eft w/ ~~20~~ $50.
4. All the above required to complete OP mod app. ✓
3/16 prepared ltr per above. ✓

BEST AVAILABLE COPY

LFC POWER SYSTEMS CORPORATION P ...ing One, Suite 255 * 4000 Kruse Way Place ...ake Oswego, OR 97035 No. 64763

DATE	INVOICE NO.	DESCRIPTION	AMOUNT	DISCOUNT	NET
03/21/95	CKQ032195		$ 50.00		$ 50.00
03/21/95	CKQ032195A		$ 250.00		$ 250.00

CHECK: 64763 - 03/24/95 - DEPT. OF ENVIR. PROTECTION DEPA014 CHECK TOTAL $ 300.00

12690

LFC POWER SYSTEMS CORPORATION
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035

PNC National Bank
Wilmington, DE 19899

62-15/311

No. 64763

CHECK DATE	CHECK AMOUNT
03/24/95	$300.00

PAY Three Hundred & no/100 Dollars

TO THE ORDER OF

DEPT. OF ENVIR. PROTECTION
7825 BAY MEADOWS WAY STE B200
JACKSONVILLE FL 32256-7577

LFC POWER SYSTEMS CORPORATION

Gary B. Bell

[redacted]

```
AREA: NED_______        Cash Receiving Applicati                    CRAF006A
                    Collection Point Log Remittance      Tot: _________$300.00
+-------------------------------------------------------------------------------+
| SYS$REMT: 23113___ Type: CP___    Recved Date: 28-MAR-1995  Status: RECEIVED   |
| SYS$RCPT: 12690___ PNR: _________ Check #: 64763_____  Amount: _________300.00|
| SSN/FEI#: __________                Name: LFC_POWER_SYSTEMS_CORPORATION_      |
|   First: _____________________ Middle: _____ Title:_________ Suf: _____       |
| Address1: BUILDING_ONE_SUITE_255_____________ Short Comments:                 |
| Address2: 4000_KRUSE_WAY_PLACE_____________ HG/VB/AC40268069/268071__        |
|     City: LAKE_OSWEGO_____ ST: OR  Zip: 97035-____ Country: __________       |
+-------------------------------------------------------------------------------+
+-------------------------> P A Y M E N T (S) <-------------------------------+
|          Distr                                                          S     |
|          CL      Object                    Payment                Applic/  T  |
| SYS$PAYT Area..  Code/Description.....:    Amount.....  Reference#    Fund  A  |
| 23992___ NED___  002222 AIR_CONSTRUCT__    _______$250.00 AC40268069 PA_ PFTF__ CO |
| 23993___ NED___  002222 AIR_CONSTRUCT__    _______$50.00  AC40268071 PA_ PFTF__ CO |
| _______ _______  ______ _________________  ____________ __________ ___ _______ __ |
| _______ _______  ______ _________________  ____________ __________ ___ _______ __ |
| _______ _______  ______ _________________  ____________ __________ ___ _______ __ |
+-------------------------------------------------------------------------------+
 COMMIT FREQUENTLY                    _________$300.00  Payment total
Press_<TAB>_to_accept_Collection_Point_or_enter_F&A._____________________________
Count: *1                                                          <Replace>
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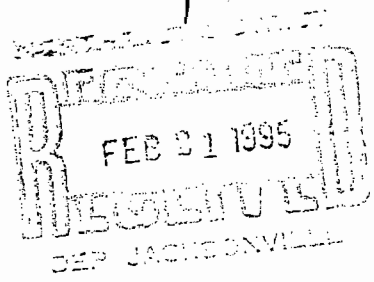
LFC POWER SYSTEMS CORPORATION

file



VIA AIRBORNE EXPRESS

February 16, 1995

Mr. Johnny Cole
Florida Department of Environmental Protection
7825 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7500

Re: Certificate of Completion of Construction
Permit No. AC 40-248 258; ID No. 31GVL 40001101
LFC No. 47 Corp., Madison Biomass Facility (Boiler: Carbonaceous Fuel Fired)

Dear Mr. Cole:

Pursuant to Specific Condition #12, enclosed please find four (4) copies of the Certificate of Completion of Construction signed and sealed by a Professional Engineer, registered in the State of Florida. The other Specific Conditions requiring fulfillment in the subject Construction Permit and its subsequent extension have been documented and submitted as follows:

Specific Condition #2: Mr. Ted Sieckman's June 23, 1994, letter to you. It is my understanding that the submission of the enclosed Certificates fulfills the requirement to submit an Operation Permit application.

Specific Condition #8: Testing completed on January 24, 1995, in compliance with permit limits. Test report submitted on February 15, 1995, to Mr. Stanley Mazur of the FDEP Jacksonville office.

Specific Condition #10: The Annual Operation Report was submitted to Ms. Phebe Scott of the FDEP Jacksonville office on February 13, 1995.

Therefore, as the submission of the enclosed Certificates of Completion of Construction fulfills the last requirement of this Construction Permit, we respectfully request that the modified Operation Permit be issued at your earliest convenience.

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

Should you have any questions, please feel free to call me at (503) 697-2360.

Sincerely,

Myron Burr
Compliance Manager

MWB485.Let:jsm
Enclosures

cc: G. Rollo (w/o enc.)
D. Brown (w/o enc.)
P. McAllister (w/o enc.)

Department of Environmental Protection

file

Lawton Chiles
Governor

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

FEB 21 1995
DEP JACKSONVILLE

Virginia B. Wetherell
Secretary

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC 40-248258 DATE: June 10, 1994

Company Name: LFC No. 47 Corp. County: Madison, Fl

Source Identification(s): ID No. 31 GVL40001101

Actual costs of serving pollution control purpose: $ No change from previously issued permit A040-179441

Operating Rates: 185 mmBtu/hr. Design Capacity: 185 mmBtu/hr.

Expected Normal 185 mmBtu/hr. During Compliance Test 168.3 mmBtu/hr.

Date of Compliance Test: January 24, 1995 (Attach detailed test report)

Test Results:

Pollutant	Actual Discharge	Allowed Discharge
Particulate Matter	0.185 lb/mmBtu	0.189 lb/mmBtu

* * *

Date plant placed in operation: _____

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. AC 40-248258 dated June 10, 1994.

A. Applicant:

David J. Brown — Name of Person Signing (Type)

Director of Operations — Signature of Owner or Authorized Representative and Title

Date: 2/9/95 Telephone: (503) 697-1736

B. Professional Engineer:

William C. Zegel — Name of Person Signing (Type)

Signature of Professional Engineer

Water and Air Research, Inc. — Company Name

Florida Registration No. 23465

Date: February 14, 1995

(Seal)

6821 SW Archer Road, Gainesville, FL 32608 — Mailing Address

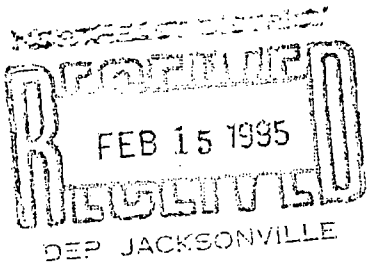
(904) 372-1500 — Telephone Number

*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.

LFC POWER SYSTEMS CORPORATION

APIS
2/20/95



February 13, 1995

Ms. Phebe Scott
Northeast District
Florida Department of Environmental Protection
7825 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7500

Re: Annual Operating Report
Facility ID: 31GVL40001101
Permit No: AC 40-248258
LFC No. 47 Corp., Madison County, Florida

Dear Ms. Scott:

Enclosed please find the Annual Operating Report for the Madison biomass facility submitted on behalf of LFC No. 47 Corp.

Should you have any questions regarding this report, please call Myron Burr at (503) 697-2360.

Sincerely,

David J. Brown
Director of Operations

DJB 1052.Let :jsm
Enclosure

cc: Myron Burr (w/encl.)
Glenn Rollo (w/encl.)
Madison Plant (w/encl.)

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR RESOURCES MANAGEMENT

ANNUAL OPERATING REPORT
FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form 62-210.900(5)
(Note: Shaded fields on form are for DEP use; please leave blank)

REPORT INFORMATION

1. Year of Report	2. Date Report Received	3. Number of Emissions Units in Report
94		one

FACILITY INFORMATION

1. Facility ID	2. Facility Status	3. Date of Permanent Facility Shutdown
31GVL400011	ACTIVE	N/A

4. Facility Owner/Company Name
LFC NO. 47 CORP. MADISON BIOMASS PLT

5. Facility Name/Street Address or Location Description
CR 591, 1.5 MI N OF MADISON

6. Facility City	7. County	8. Zip Code
MADISON	MADISON	32340

9. Facility Compliance Tracking Code	10. Governmental Facility Code
	0

11. Facility Comment
TITLE V (MAJOR)

FACILITY HISTORY INFORMATION

1. Change in Facility Name During Year?	Previous Name	1. Date of Change
No		

Shaded areas are for DEP use.

DEP Form 62-210.900(5) - Form
Effective: 11-23-94

Date: 2/13/95

	DISTRICT	OFFICE	COUNTY	FACILITY	
APIS ID	31	GVL	40	0011	INPUT [-]

OWNER/CONTACT INFORMATION

1. Individual Owner or Authorized Representative Name
DAVID J. BROWN, DIR. BIOMASS OPERATIONS

Organization/Firm
LFC NO. 47 CORP; C/O LFC POWER SYSTEMS

Street Address or P.O. Box
4000 KRUSE WAY PL, BLDG 1

City	State	Zip
LAKE OSWEGO	OR	97035

Telephone	Fax
(503) 636-9620	( )

2. Facility Contact Name
~~ROD MIZE~~ MYRON BURR

Organization/Firm
LFC NO. 47 CORP; C/O LFC POWER SYSTEMS

Street Address or P.O. Box
~~ROUTE 3, BOX 40~~ 4000 Kruse Way Place, Building One, Suite 255

City	State	Zip
~~MADISON~~ LAKE OSWEGO	~~FL~~ OR	~~32340~~ 97035

Telephone	Fax
~~(904) 973-3180~~ (503) 697-2360	(503) 697-0288

CERTIFICATION

Statement by Owner or Authorized Representative

I hereby certify that the information given in this report is correct to the best of my knowledge.

Signature

2/10/95
Date

Shaded areas are for DEP use.

DEP Form 62-210.900(5) - Form
Effective: 11-23-94

Date: 2/13/95

	DISTRICT	OFFICE	COUNTY	FACILITY	EMISSIONS UNIT	
APIS ID	31	GVL	40	0011	01	INPUT

EMISSIONS UNIT OPERATION REPORT (EMISSIONS UNIT REPORT 1 OF 1)

FACILITY NAME: LFC NO. 47 CORP. MADISON BIOMASS PLT

EMISSIONS UNIT INFORMATION

1. Emissions Unit Description		2. Ozone SIP Base Year Emissions Unit?
BOILER (CARBONACEOUS FUEL) W/MULTICLONE & VENTURI SCRUBBER		N
3. DEP Permit or PPS Number	4. Emissions Unit ID	5. Emissions Unit Status
AC40-248258 AO40179441	31GVL40001101	ACTIVE
6. Emissions Unit Startup Date	7. Long-term Reserve Shutdown Date	8. Permanent Shutdown Date
N/A	N/A	N/A

EMISSION POINT/CONTROL INFORMATION

1. Emission Point Type
SINGLE POINT
2a. Description of Control Equipment 'a'
MULTICLONE (JOY MFG. CO. MODEL 12-VM-35) SIZE 50-5
2b. Description of Control Equipment 'b'
WET SCRUBBER (PERRY SMITH CO. MODEL 80M)

EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Operated During Year?	2. Average Annual Operation hour/day	day/week	3. Average Ozone Season Operation (June 1 to August 31) hour/day	day/week	4. Total Operation During Year) (hour/year)
Y	24	6.1	N/A	N/A	1319
5. Percent Hours of Operation by Season	DJF	MAM	JJA	SON	
	100%	0%	0%	0%	

Shaded areas are for DEP use.

DEP Form 62-210.900(5) - Form
Effective: 11-23-94

Date: 2/13/95

	DISTRICT	OFFICE	COUNTY	FACILITY	EMISSIONS UNIT	
APIS ID	31	GVL	40	0011	01	INPUT

EMISSIONS UNIT PROCESS/FUEL INFORMATION

1a. SCC 'a'	2a. Description of Process or Type of Fuel	
10100902	EXTCOMB BOILER ELECTRIC GENERATN WOOD/BARK WASTE WOOD/BARK BOILER	
3a. Annual Process or Fuel Usage Rate	4a. Ozone Season Daily Process or Fuel Usage Rate	5a. SCC Unit
13,930 tons burned	N/A	TONS BURNED
6a. Fuel Average % Sulphur	7a. Fuel Average % Ash	8a. Fuel Heat Content (mmBtu/SCC Units)
N/A	1.5% to 3%	9 mmBtu per ton

1b. SCC 'b'	2b. Description of Process or Type of Fuel	
3b. Annual Process or Fuel Usage Rate	4b. Ozone Season Daily Process or Fuel Usage Rate	5b. SCC Unit
6b. Fuel Average % Sulphur	7b. Fuel Average % Ash	8b. Fuel Heat Content (mmBtu/SCC Units)

1c. SCC 'c'	2c. Description of Process or Type of Fuel	
3c. Annual Process or Fuel Usage Rate	4c. Ozone Season Daily Process or Fuel Usage Rate	5c. SCC Unit
6c. Fuel Average % Sulphur	7c. Fuel Average % Ash	8c. Fuel Heat Content (mmBtu/SCC Units)

1d. SCC 'd'	2d. Description of Process or Type of Fuel	
3d. Annual Process or Fuel Usage Rate	4d. Ozone Season Daily Process or Fuel Usage Rate	5d. SCC Unit
6d. Fuel Average % Sulphur	7d. Fuel Average % Ash	8d. Fuel Heat Content (mmBtu/SCC Units)

Shaded areas are for DEP use.

	DISTRICT	OFFICE	COUNTY	FACILITY	EMISSIONS UNIT	
APIS ID	31	GVL	40	0011	01	INPUT

EMISSIONS INFORMATION BY PROCESS/FUEL(EMISSIONS REPORT 1 OF 1)

1.SCC or Description of Process or Type of Fuel

2a. Pollutant 'a'	3a. Annual Emissions (ton/year)	4a. Ozone Season Daily Emissions(lb/day)	5a. Emissions Method Code
VOLATILE ORGANIC COMPOUNDS	9.8	N/A	4

6a. Emissions Calculation (Show separately both annual and daily emissions calculations)

See attached pages.

2b. Pollutant 'b'	3b. Annual Emissions (ton/year)	4b. Ozone Season Daily Emissions(lb/day)	5b. Emissions Method Code
SULFUR DIOXIDE	0.5	N/A	4

6b. Emissions Calculation (Show separately both annual and daily emissions calculations)

See attached pages.

2c. Pollutant 'c'	3c. Annual Emissions (ton/year)	4c. Ozone Season Daily Emissions(lb/day)	5c. Emissions Method Code
CARBON MONOXIDE	31.5	N/A	1

6c. Emissions Calculation (Show separately both annual and daily emissions calculations)

By test results, see attached pages.

2d. Pollutant 'd'	3d. Annual Emissions (ton/year)	4d. Ozone Season Daily Emissions(lb/day)	5d. Emissions Method Code
PARTICULATE MATTER - PM10	3.3	N/A	4

6d. Emissions Calculation (Show separately both annual and daily emissions calculations)

See attached pages.

Shaded areas are for DEP use.

	DISTRICT	OFFICE	COUNTY	FACILITY	EMISSIONS UNIT	
APIS ID	31	GVL	40	0011	01	INPUT

EMISSIONS INFORMATION (Continued)

2e. Pollutant 'e'	3e. Annual Emissions (ton/year)	4e. Ozone Season Daily Emissions(lb/day)	5e. Emissions Method Code
PARTICULATE MATTER - TOTAL	20.5	N/A	1

6e. Emissions Calculation (Show separately both annual and daily emissions calculations)

By test results, see attached pages.

2f. Pollutant 'f'	3f. Annual Emissions (ton/year)	4f. Ozone Season Daily Emissions(lb/day)	5f. Emissions Method Code
NITROGEN OXIDES	2.6	N/A	4

6f. Emissions Calculation (Show separately both annual and daily emissions calculations)

See attached pages.

2g. Pollutant 'g'	3g. Annual Emissions (ton/year)	4g. Ozone Season Daily Emissions(lb/day)	5g. Emissions Method Code

6g. Emissions Calculation (Show separately both annual and daily emissions calculations)

2h. Pollutant 'h'	3h. Annual Emissions (ton/year)	4h. Ozone Season Daily Emissions(lb/day)	5h. Emissions Method Code

6h. Emissions Calculation (Show separately both annual and daily emissions calculations)

Shaded areas are for DEP use.

MADISON

SOURCE EMISSIONS INFORMATION (AIR051)
4A-4D. EMISSIONS CALCULATIONS (WITH EMISSION FACTORS)

TONS OF FUEL CONSUMED DURING 1994 = 13,930

4A. VOLATILE ORGANIC COMPOUNDS:

VOC EMISSION FACTOR = 1.4 LBS / TON OF FUEL

$$1.4\frac{LBS}{TON\ OF\ FUEL}\times 13{,}930\frac{TONS\ OF\ FUEL}{YEAR} = 9.8\frac{TONS\ VOC}{YEAR}$$

4B. SULFUR DIOXIDE:

SO2 EMISSION FACTOR = 0.075 LBS / TON OF FUEL

$$0.075\frac{LBS}{TON\ OF\ FUEL}\times 13{,}930\frac{TONS\ OF\ FUEL}{YEAR} = 0.5\frac{TONS\ SO2}{YEAR}$$

4C. CARBON MONOXIDE:

CO EMISSION FACTOR = 4.52 LBS / TON OF FUEL

$$4.52\frac{LBS}{TON\ OF\ FUEL}\times 13{,}930\frac{TONS\ OF\ FUEL}{YEAR} = 31.5\frac{TONS\ SO2}{YEAR}$$

NOTE: CARBON MONOXIDE EMISSION FACTOR OBTAINED FROM EMISSIONS TEST PERFORMED BY PENSACOLA P.O.C., INC. ON OCTOBER 22, 1993.

4D. PARTICULATE MATTER - 10 MICRONS OR LESS:

10 MICRON EMISSION FACTOR = 0.47 LBS / TON OF FUEL

$$0.47\frac{LBS}{TON\ OF\ FUEL}\times 13{,}930\frac{TONS\ OF\ FUEL}{YEAR} = 3.3\frac{TONS\ OF\ 10\ MICRON}{YEAR}$$

SOURCE EMISSIONS INFORMATION (AIR051)
4E. EMISSIONS CALCULATION

DATA FROM INDEPENDENT LABORATORY EMISSIONS TEST
PREFORMED BY PENSACOLA P.O.C., INC.

DATE OF TEST: JANUARY 24, 1995

PARTICULATE EMISSION RATE: 0.185 LB/MMBTU

PLANT BURN RATE AT TIME OF TEST: 18.7 TONS OF FUEL/HR.

FUEL HEAT CONTENT: 9 MMBTU/TON OF FUEL

$$\frac{18.7\ TONS\ OF\ FUEL}{HR} \times \frac{9 MMBTU}{TONS\ OF\ FUEL} \times \frac{0.185\ LB\ PM}{MMBTU} \times \frac{1319 HRS}{YEAR} = \frac{20.5\ TON}{YEAR}$$

SOURCE EMISSIONS INFORMATION (AIR051)
4F. EMISSIONS CALCULATIONS (WITH EMISSION FACTORS)

TONS OF FUEL CONSUMED DURING 1994 = 13,390

4F. NITROGEN OXIDES:

NOX EMISSION FACTOR = 0.38 LBS / TON OF FUEL

AP42 1.6-2

$$0.38 \frac{LBS}{TON\ OF\ FUEL} \times 13,390 \frac{TONS\ OF\ FUEL}{YEAR} = 2.6 \frac{TONS\ NOX}{YEAR}$$

EMISSIONS TEST

FOR

LFC POWER SYSTEMS CORPORATION

Madison, FL

Date: 2 February 1995

Date of Test: 24 January 1995

Type of Test: EPA Method 1-5 & 9

Permit Number: AC40-249258

I. D. Number: 31GVL40001101

Average Production Rate: in excess of 90,000 lb/hr steam flow

Average PM Emissions: 0.185 lb/MM BTU *

D.E.P. Allowable: 0.189 lb/MM BTU

* Corrected to 100% isokinetics

Tested by:

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

Phone: 904 456-4406

Name: LFC Power Systems
Source: Scrubber
Location: Madison, FL
Test Date: 24 January 1995

TABLE OF CONTENTS

Test Description(s)

TEST DESCRIPTION

Pensacola P.O.C., Inc. performed particulate emissions test on the LFC Power Systems Corporation boiler scrubber exhaust, located at Route 3, Box 40, Madison, FL on 24 January 1995. Test was conducted to demonstrate compliance with the rules and regulations of the Florida Department of Environmental Protection (D.E.P.). D.E.P. was notified prior to the testing. Mr. Stan Mazur and Mr. Jim Herne from the Jacksonville office of D.E.P. were present during the test.

The source of airborne particulate is the burning of whole tree chips, bark and wood residue. The airborne particulate matter generated by this process is controlled and collected by a multiclone and wet Venturi scrubber and separator. Scrubbed air is discharged into atmosphere through a stack.

A total of three particulate emissions tests (runs) were collected isokinetically, each lasting sixty minutes. A total of twenty-four points were sampled during each run. The samples were extracted through two portholes, twelve samples per porthole. The locations of portholes and sampling points are shown on enclosed sketches.

EQUIPMENT USED:

RAC Model 2414 metering console with 7' heated probe, having EPA Method 5 type nozzle attached to it. Probe was attached directly to heated box containing filter holder with filter on which particulate matter was collected. Probe had type "S" pitot tube attached to it for flow velocity measurements, temperature stack sensor and suction pipe for stack gas sample collection. Four glass impingers were used to extract moisture from gas stream prior to metering console. First, third and fourth impingers were modified Greenburg Smith type and second impinger was Greenburg Smith type. First two impingers contained 100 ml each of DI water, third impinger was left empty and fourth impinger contained preweighed regenerated silica gel. Impingers were kept in ice bath to maintain temperatures below 68 F. Train was set up as shown on enclosed schematic.

Hays 621A Analyzer to measure oxygen and carbon dioxide content of stack gases collected in tedlar bags.

Digital thermometers/thermocouples to measure stack, meter in, meter out, probe, hot box, and 4th impinger temperatures.

Glass fiber filters, Whatman 934 AH.

Indicating silica gel, 6-16 mesh; it is regenerated after each use.

A.C.S. reagent grade acetone.

Analytical balances, A & D ER180A and/or Sartorius R200D for filters and wash gains and Mettler P1210 for silica gel.

Glass beakers were used to evaporate acetone gains and plastic graduated cylinders were used to measure impinger gains.

PRETEST PROCEDURES

Filters were inspected and numbered on the back side with a felt tip pen. Filters were then placed in correspondingly numbered plastic petri dishes and placed in desiccator for a minimum of 24 hours prior to first weighing. Balances were calibrated using built in self-calibration features and then checked with calibrated weights prior to each set of weighings. Filters were reweighed until a constant weight was obtained. Weights were recorded in balance logbook. Just prior to test, filters were placed into numbered filter holders, leak tested, and then wrapped in bubble wrap and sealed in large numbered zip lock type baggies.

Deionized water and ACS grade acetone were placed into containers and sealed to be taken to field.

Silica gel was placed in labeled polyethylene containers which were sealed and then weighed.

Preliminary test was conducted prior to particulate test to determine stack dimensions, average velocity pressures, angles of Null as well as temperatures of stack gases. Preliminary test indicated lack of cyclonic flow.

Using data obtained from preliminary tests, nozzle size and test parameters were selected to meet isokinetic requirements.

Nozzle was physically examined for defects and then calibrated using electronic calipers.

TEST PROCEDURES

Prior to commencement of each test run, integrity of collection train was checked as follows:

1. Main sampling train was tested at more than 10" WG for 60 seconds, making sure meter volume did not exceed 0.02 CF.
2. Pitots, both positive and negative sides, were checked for leakages.
3. C02-02 collection train was checked for leaks.
4. Temperature trains for stack, meter in, meter out and 4th impinger were checked against calibrated thermometer.
5. Sampling systems were allowed to reach proper temperatures before tests were started.

During test, parameters were recorded on field test forms every 2.5 minutes; field data forms are enclosed. Delta H was calculated at each point, rate of sampling was adjusted accordingly to meet isokinetic flows and recorded.

During each run an integrated sample was collected in numbered tedlar bags to be analyzed by Orsat for C02 and 02.

POSTRUN PROCEDURES

After each run, probe was removed from stack and allowed to cool. Once the probe had cooled, a post leak test was conducted at vacuums exceeding the highest vacuum recorded during test. Meter readings did not exceed 0.02 CF. Afterwards, the impingers were disassembled, measuring and recording liquids in each of the first three impingers. The silica gel in the 4th impinger was recovered and returned to its labeled container and resealed. Filter holder was removed from the hot box, plugged and, after it had cooled, rewrapped in bubble and returned to its numbered baggie. The probe was disassembled, rinsed and brushed a minimum of 5 times with acetone. The acetone catch was collected in a labeled polyethylene container and sealed. The level of fluid was marked.

The entire train was then reassembled and entire procedure repeated for additional runs.

LAB PROCEDURES

After returning to the office, silica gel containers were weighed and weights recorded on field data sheets. Filters were carefully removed from filter holders and returned to numbered petri dishes. Petri dishes were then placed into a desiccator and allowed to dry. Filter drying and weighing procedures were the same as described in Pretest Procedures. Filters were weighed until constant weights were obtained. Front half of each filter holder was rinsed with acetone. This acetone, plus corresponding acetone collected in the field was placed in numbered glass beakers. Beakers were then placed under a hood and allowed to evaporate at ambient temperatures and pressures. Once the acetone was evaporated, beakers were placed into desiccator and allowed to dry. Drying and weighing procedures for beakers were the same as for filters. Beakers were weighed until constant weight was obtained.

Filter weight gains and acetone rinse gains were combined when calculating particulate gains.

The test was conducted by K. C. Sviglin, Ray Hadwin and Barbara Sviglin of Pensacola P.O.C., Inc. Lab results and report prepared by Barbara Sviglin.

Testing Verification and Production Data

PENSACOLA P.O.C., INC.

109 South Second St., Pensacola, FL 32507 U.S.A. 904 456-4406

ENVIRONMENTAL TESTING AND TROUBLESHOOTING

February 2, 1995

Ms. Stanley B. Mazur
Department of Environmental Protection
7825 Bay Meadows Way
Suite 200 B
Jacksonville, FL 32256-7577

RE: LFC Power Systems Corporation
Madison, FL

Dear Stan,

On January 24, 1995, Pensacola P.O.C., Inc. conducted the following tests on subject scrubber:

Particulate Test (EPA Method 1, 2, 3 & 5)
Visible Emissions (EPA Method 9)

To the best of my knowledge, all applicable field and analytical procedures comply with Florida Department of Environmental Protection requirements, and all test data and plant operating data furnished by us are true and correct.

Sincerely,

Barbara Sviglin

Barbara Sviglin (Schwiglin)

LFC POWER SYSTEMS CORPORATION

January 24, 1995

Barbara Sviolin
Pensacola P.O.C., Inc.
109 South 2nd Street
Pensacola, FL 32507

Barbara,

On January 24, 1995 Pensacola P.O.C. conducted stack testing at LFC Power Systems Corp. plant located at Rt. 3 Box 40 Madison, FL.

This letter is to confirm that to the best of my knowledge the plant was operated in it's normal operating mode during testing.

Please call if you have any questions.

Sincerely,

Glenn Rollo
Plant Manager

Route 1, Box 38 • Monticello, Florida 32344
Phone: (904) 997-0616 • FAX: (904) 997-2974

Process Description
Madison Plant

The plant utilizes a Bigelow (size KVB 3020) carbonaceous burning boiler with an average maximum rated output of the attached Turbine-Generator of 8.4-8.6 MW net generation. Maximum gross generating capacity is 9.5 MW. The plant produced an average of 8.45 MW during the three test runs of 1/24/95.

The fuel used during the test consisted of whole tree chips, bark, and wood residue with an estimated moisture content of 45-50% and a BTU content of 4500 BTU/lb. Fuel useage at an equivalent capacity of 9.5 MW is 20.5 tons/hr burn rate, theoretically. The average burn recorded for the three hour test on 1/24/95 was 18.7 tons per hour with an equivalent capacity rate for that period of 8.45 MW. The steam flow was in excess of 90,000 pph with an average temperature of 724 F and pressure of 423 psig...

Particulate are controlled with a multicone (Joy Manufacturer Model 12-VM-35 size 50-5) and a Wet Venturi Scrubber (Perry Smith Co. Model 80 M) operated and average of 5.0 inches pressure drop across the scrubber. The water inlet temperature was approximately 100 F and the flow is estimated at 600 gpm.

STACK TEST OPERATING DATA

SITE: MADISON

ACTUAL START TIME: 1015 TEST #: 1 DATE: 1/24/95

1015 TIME	O2 AMTEK	O2 P.O.C.	BOILER PRESS @ TURB	BOILER TEMP @ TURB	STEAM FLOW	GROSS MWH	SCRUBBER PRESS	SCRUBBER DELTA PRESS	SCRUBBER FLOW RATE	# BUCKETS (FUEL)
0000	1.5	4.6	425	730	99.4 k	8.5	30	4½	600	0
0015	2.9		425	720	98.2 k	8.4	28	5	600	6
0030	.5		422	735	101. k	8.6	27	5	600	4
0045	3.7		425	720	98.2 k	8.4	27	5.5	600	4
0100	2.6		430	730	99.4 k	8.5	27	4	600	2
0115										
0130										
0145										
0200										
0215										
0230										
0245										
0300										
0315										
0330										
0345										
0400										
0415										

STACK TEST OPERATING DATA

SITE: MADISON

ACTUAL START TIME: 1245 TEST #: (2) DATE: 1-24-95

1245 TIME	O2 AMTEK	O2 P.O.C.	BOILER PRESS @ TURB	BOILER TEMP @ TURB	STEAM FLOW	GROSS MWH	SCRUBBER PRESS	SCRUBBER DELTA PRESS	SCRUBBER FLOW RATE	2340 # BUCKETS (RJEL)
0000	1.0	4.5	415	720	98.2 K	8.4	28	6.5	600	0
0015	1.4		422	730	99.4 K	8.5	28	5.6	600	3
0030	2.0		420	730	99.4 K	8.5	28	6.0	600	6
0045	1.0		433	735	101. K	8.6	27	5.4	600	4
0100	2.8		430	735	101. K	8.6	27	5.8	600	3
0115										
0130										
0145										
0200										
0215										
0230										
0245										
0300										
0315										
0330										
0345										
0400										

STACK TEST OPERATING DATA

SITE: MADISON

ACTUAL START TIME: 430 TEST #: 3 DATE: 1-24-95

TIME	O2 AMTEK	O2 P.O.C.	BOILER PRESS @ TURB	BOILER TEMP @ TURB	STEAM FLOW	GROSS MWH	SCRUBBER PRESS	SCRUBBER DELTA PRESS	SCRUBBER FLOW RATE	# BUCKETS (FUEL)
0000	2.0		420	710	98.2K	8.4	27	5	600	0
0015	1.5		420	720	98.2K	8.4	26	5.4	600	5
0030	2.0		417	710	97.0K	8.3	27	4½	600	3
0045	1.9		415	710	97.4K	8.3	27	5.4	600	4
0100	1.0		420	720	98.2K	8.4	27	4.7	600	3
0115										
0130										
0145										
0200										
0215										
0230										
0245										
0300										
0315										
0330										
0345										
0400										
0415										

Calculations

LFC POWER SYSTEMS, INC.
Madison, FL
Tested 24 January 1995

EMISSIONS: E = (C) (F) [20.9 / (20.9 - % 02)]

1. Run No. 1

Part. = 0.2816 g = 0.0002816 Kg x 2.2 lb/Kg = 0.0006195
DSCF = 42.35
C = 0.0006195 / 42.35 = 0.0000146 lb/DSCF

F = 9,280 DSCF/MM BTU for wood residue
F = 9,640 dscf/MM BTU for bark
F = 0.9* x 9,280 + 0.1* x 9,640 = 9,316 dscf/MM BTU

20.9 / 20.9 - 4.5 = 1.274

E = 0.0000146 x 9,316 x 1.274 = 0.173 lb/MM BTU

E Corrected to 100% isoninetics

Isokinetics during run = 105.06
105.06 - 100.00 = 5.06
0.0506 x 0.173 = 0.0088
0.173 - 0.0088 = **0.164 lb/MM BTU**

2. Run No. 2

Part. = 0.3419 g = 0.0003419 Kg x 2.2 lb/Kg = 0.0007521
DSCF = 42.58
C = 0.0007521 / 42.58 = 0.0000176

F = 9,280 DSCF/MM BTU for wood residue
F = 9,640 DSCF/MM BTU for bark
F = 0.9* x 9280 + 0.1* x 9640 = 9,316 dscf/MM BTU

20.9 / 20.9 - 4.3 = 1.259

E = 0.0000176 x 9,316 x 1.259 = 0.206 lb/MM BTU

E Corrected to 100% isoninetics

Isokinetics during run = 104.19
104.19 - 100.00 = 4.19
0.0419 x 0.206 = 0.0086
0.206 - 0.0086 = **0.197 lb/MM BTU**

3. Run No. 3

Part. = 0.3070 g = 0.0003070 Kg x 2.2 lb/Kg = 0.0006754
DSCF = 39.47
C = 0.0006754 / 39.47 = 0.0000171 lb/DSCF

F = 9,280 DSCF/MM BTU for wood residue
F = 9,640 DSCF/MM BTU for bark
F = 0.9* x 9280 + 0.1* x 9640 = 9,316 DSCF/MM BTU

20.9 / 20.9 - 4.5 = 1.274

E = 0.0000171 x 9,316 x 1.274 = 0.203 lb/MM BTU

E Corrected to 100% isoninetics

Isokinetics during run = 104.69
104.69 - 100.00 = 4.69
0.0469 x 0.203 = 0.0095
0.203 - 0.0095 = **0.194 lb/MM BTU**

4. Averages Corrected to 100% Isokinetics

0.164 + 0.197 + 0.194 / 3 = **0.185 lb/MM BTU**

*Data furnished by LFC Power

PENSACOLA P.O.C., INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 1

INPUT DATA

	delta P	SR delta P	delta H	Vac	tm in	tm out	stack ts	hotbox temp
1	0.24	0.49	1.26		58	56	166	
2	0.25	0.50	1.32		63	56	167	
3	0.28	0.53	1.47		69	58	172	
4	0.31	0.56	1.63		75	60	168	
5	0.30	0.55	1.58		80	62	174	
6	0.34	0.58	1.79		85	64	170	
7	0.30	0.55	1.58		89	66	172	
8	0.31	0.56	1.63		92	68	166	
9	0.30	0.55	1.58		94	69	165	
10	0.30	0.55	1.58		96	71	165	
11	0.26	0.51	1.37		98	73	167	
12	0.27	0.52	1.42		99	74	164	
13	0.14	0.37	0.74		90	75	151	
14	0.22	0.47	1.16		92	76	155	
15	0.26	0.51	1.37		96	78	159	
16	0.29	0.54	1.53		99	79	156	
17	0.30	0.55	1.58		102	80	158	
18	0.34	0.58	1.79		105	81	160	
19	0.32	0.57	1.68		107	83	156	
20	0.32	0.57	1.68		109	84	163	
21	0.34	0.58	1.79		110	85	164	
22	0.33	0.57	1.74		112	86	167	
23	0.31	0.56	1.63		113	87	164	
24	0.28	0.53	1.47		114	88	163	
25		0.00						
26		0.00						
27		0.00						
28		0.00						
29		0.00						
30		0.00						
Totals		12.833	36.370	0.0	2247	1759	3932	0

PENSACOLA P.O.C., INC.

Client:	LFC Power Systems
Source:	Wet Scrubber
Location:	Madison, FL
Date of Test:	January 24, 1995

Run No.: 1

INPUT DATA continued

Area of Stack (As) in SF:	26.68
No. of equivalent diameters upstream:	1.90
No. of equivalent diameters downstream:	3.40
No. of traverse points:	24
Total test ime in minutes:	60.0
Stack static pressure in "WG:	-0.22
Barometric pressure (Pb) in "Hg:	30.19
Percent C02:	16.1
Percent 02:	4.5
Impinger water gain in ml:	284
Silica gel gain in g:	10.7
Nozzle size in inches:	0.310
Dry gas meter correction factor (Ym):	1.02
Particulate gain (M) in g:	0.2816
Volume metered (Vm) in DCF:	42.2
Pitot tube coefficient (Cp):	0.84

PENSACOLA P.O.C., INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 1

CALCULATIONS

Temperature of stack (Ts) = total of ts / no. of points + 460 = 624

Average square root of delta P = total of SR of delta P / no. of points = 0.535

Percent C0 + N2 = 100 - %C02 - %02 = 79.4

Area of nozzle (As) in SF: 0.0005241

Average delta H = total of delta H / no. of points = 1.515

Temperaure of meter (Tm) = total of tm in & tm out / 2 (no. of points) + 460 = 543

Particulate gain (Mn) in mg = M (1,000) = 281.60

Stack Absolute Pressre (Ps) in "Hg

Ps = Pb + (stack static pressure / 13.6)

Ps= 30.17

Standard Volume Metered (Vm(std)) in DSCF

Vm(std) = (Vm)(Ym)(17.647)[(Delta H / 13.6 + Pb) / Tm]

Vm(std) = 42.35

Water collected in impingers (Vwi(std)) in SCF

Vwi(std) = (0.04707 CF/ml) (impinger water gain) =

Vwi(std) = 13.37

Water collected in silica gel (Vwsg(std)) in SCF

Vwsg(std) = (0.04715 CF/g) (silica gel gain)

Vwsg(std) = 0.50

Moisture Content of Stack Gas (Bws)

Bws = (Vwi(std) + Vwsg(std)) / (Vwi(std) + Vwsg(std) + Vm(std))

Bws = 0.25

PENSACOLA P.O.C, INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 1

Dry Molecular Weight of Stack Gas (Md) In lb/lb mole

Md = (0.44) (% C02) + (0.32) (%02) + (0.28) (%C0 + %N2)

Md = 30.76

Wet Molecular Weight of Stack Gas (Ms) In lb/lb mole

Ms = Md (1- Bws) + 18 Bws

Ms = 27.61

Average Stack Gas Velocity (Vs) In ft/sec

Vs = (85.49)(Cp) [SQR[Ts / (Ps * Ms)] (SqR Delta P)

Vs = 33.23

Volumetric Flow Rate (Qa) In ACFM

Qa = (Vs) (As) (60)

Qa = 53193

Volumetric Flow Rate (Qs) In DSCFM

Qs = (Qa) (1 - Bws) (17.647) (Ps / Ts)

Qs = 34201.21

Particulate Mass Rate (PMR) In lb/hr

PMR = (M / Vm(std))(Qs * 60) (0.0022 lb/g)

PMR = 30.017

Percent Isokinetic Variation (I)

I = [(Ts)(Vm(std))(29.92)(100)] / [(An)(Min)(Vs)(Ps)(528)(60)(1-Bws)]

I = 105.06

Particulate Concentration (Cs) In grains/DSCF

Cs = 0.0154 (Mn / Vm(std))

Cs = 0.10239

PENSACOLA P.O.C., INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 2

INPUT DATA

	delta P	SR delta P	delta H	Vac	tm In	tm out	stack ts	hotbox temp
1	0.14	0.37	0.74		73	73	164	
2	0.21	0.46	1.10		79	75	164	
3	0.24	0.49	1.16		84	76	188	
4	0.33	0.57	1.74		90	77	181	
5	0.32	0.57	1.68		96	79	185	
6	0.32	0.57	1.68		99	81	184	
7	0.37	0.61	1.95		103	82	181	
8	0.31	0.56	1.63		107	84	177	
9	0.35	0.59	1.84		109	86	178	
10	0.34	0.58	1.79		111	87	175	
11	0.29	0.54	1.53		113	89	175	
12	0.27	0.52	1.42		114	90	177	
13	0.20	0.45	1.05		110	91	169	
14	0.29	0.54	1.53		112	91	181	
15	0.31	0.56	1.63		115	93	180	
16	0.30	0.55	1.58		117	94	182	
17	0.33	0.57	1.74		119	95	181	
18	0.38	0.62	2.00		121	96	183	
19	0.35	0.59	1.84		123	97	183	
20	0.32	0.57	1.68		124	98	185	
21	0.33	0.57	1.74		125	99	192	
22	0.30	0.55	1.58		126	99	175	
23	0.31	0.56	1.63		127	100	187	
24	0.24	0.49	1.26		127	101	187	
25		0.00						
26		0.00						
27		0.00						
28		0.00						
29		0.00						
30		0.00						
Totals		13.033	37.520	0.0	2624	2133	4314	0

PENSACOLA P.O.C., INC.

Client:	LFC Power Systems
Source:	Wet Scrubber
Location:	Madison, FL
Date of Test:	January 24, 1995

Run No.: 2

INPUT DATA continued

Area of Stack (As) in SF:	26.68
No. of equivalent diameters upstream:	1.90
No. of equivalent diameters downstream:	3.40
No. of traverse points:	24
Total test ime in minutes:	60.0
Stack static pressure in "WG:	-0.21
Barometric pressure (Pb) in "Hg:	30.22
Percent C02:	15.8
Percent 02:	4.3
Impinger water gain in ml:	272
Silica gel gain in g:	10.6
Nozzle size in inches:	0.310
Dry gas meter correction factor (Ym):	1.02
Particulate gain (M) in g:	0.3419
Volume metered (Vm) in DCF:	43.6
Pitot tube coefficient (Cp):	0.84

PENSACOLA P.O.C., INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 2

CALCULATIONS

Temperature of stack (Ts) = total of ts / no. of points + 460 = 640

Average square root of delta P = total of SR of delta P / no. of points = 0.543

Percent C0 + N2 = 100 - %C02 - %02 = 79.9

Area of nozzle (As) in SF: 0.0005241

Average delta H = total of delta H / no. of points = 1.563

Temperaure of meter (Tm) = total of tm in & tm out / 2 (no. of points) + 460 = 559

Particulate gain (Mn) in mg = M (1,000) = 341.90

Stack Absolute Pressre (Ps) in "Hg

Ps = Pb + (stack static pressure / 13.6)

Ps= 30.20

Standard Volume Metered (Vm(std)) in DSCF

Vm(std) = (Vm)(Ym)(17.647)[(Delta H / 13.6 + Pb) / Tm]

Vm(std) = 42.58

Water collected in impingers (Vwi(std)) in SCF

Vwi(std) = (0.04707 CF/ml) (impinger water gain) =

Vwi(std) = 12.80

Water collected in silica gel (Vwsg(std)) in SCF

Vwsg(std) = (0.04715 CF/g) (silica gel gain)

Vwsg(std) = 0.50

Moisture Content of Stack Gas (Bws)

Bws = (Vwi(std) + Vwsg(std)) / (Vwi(std) + Vwsg(std) + Vm(std))

Bws = 0.24

PENSACOLA P.O.C, INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 2

Dry Molecular Weight of Stack Gas (Md) in lb/lb mole

Md = (0.44) (% C02) + (0.32) (%02) + (0.28) (%C0 + %N2)

Md = 30.70

Wet Molecular Weight of Stack Gas (Ms) in lb/lb mole

Ms = Md (1- Bws) + 18 Bws

Ms = 27.68

Average Stack Gas Velocity (Vs) in ft/sec

Vs = (85.49)(Cp) [SQR[Ts / (Ps * Ms)] (SqR Delta P)

Vs = 34.12

Volumetric Flow Rate (Qa) in ACFM

Qa = (Vs) (As) (60)

Qa = 54612

Volumetric Flow Rate (Qs) in DSCFM

Qs = (Qa) (1 - Bws) (17.647) (Ps / Ts)

Qs = 34669.46

Particulate Mass Rate (PMR) in lb/hr

PMR = (M / Vm(std))(Qs * 60) (0.0022 lb/g)

PMR = 36.746

Percent Isokinetic Variation (I)

I = [(Ts)(Vm(std))(29.92)(100)] / [(An)(Min)(Vs)(Ps)(528)(60)(1-Bws)]

I = 104.19

Particulate Concentration (Cs) in grains/DSCF

Cs = 0.0154 (Mn / Vm(std))

Cs = 0.12366

PENSACOLA P.O.C., INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 3

INPUT DATA

	delta P	SR delta P	delta H	Vac	tm in	tm out	stack ts	hotbox temp
1	0.16	0.40	0.84		88	88	180	
2	0.19	0.44	1.00		93	89	183	
3	0.25	0.50	1.32		98	88	184	
4	0.28	0.53	1.47		103	89	183	
5	0.29	0.54	1.53		108	90	185	
6	0.31	0.56	1.63		111	91	188	
7	0.30	0.55	1.58		114	92	186	
8	0.27	0.52	1.42		116	93	187	
9	0.28	0.53	1.47		117	93	185	
10	0.25	0.50	1.32		118	94	185	
11	0.25	0.50	1.32		119	95	184	
12	0.24	0.49	1.26		120	96	181	
13	0.14	0.37	0.74		115	96	169	
14	0.20	0.45	1.05		116	96	169	
15	0.23	0.48	1.21		118	97	176	
16	0.27	0.52	1.42		120	98	177	
17	0.29	0.54	1.53		121	98	173	
18	0.31	0.56	1.63		123	99	174	
19	0.32	0.57	1.68		124	100	173	
20	0.30	0.55	1.58		125	100	172	
21	0.30	0.55	1.58		126	101	174	
22	0.30	0.55	1.58		126	101	177	
23	0.29	0.54	1.53		126	101	173	
24	0.28	0.53	1.47		126	101	175	
25		0.00						
26		0.00						
27		0.00						
28		0.00						
29		0.00						
30		0.00						
Totals		12.239	33.160	0.0	2771	2284	4293	0

PENSACOLA P.O.C., INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 3

INPUT DATA continued

Area of Stack (As) in SF:	26.68
No. of equivalent diameters upstream:	1.90
No. of equivalent diameters downstream:	3.40
No. of traverse points:	24
Total test lme in minutes:	60.0
Stack static pressure in "WG:	-0.23
Barometric pressure (Pb) in "Hg:	30.13
Percent C02:	16.2
Percent 02:	4.5
Impinger water gain in ml:	273
Silica gel gain in g:	10.4
Nozzle size in inches:	0.310
Dry gas meter correction factor (Ym):	1.02
Particulate gain (M) in g:	0.3070
Volume metered (Vm) in DCF:	41.0
Pitot tube coefficient (Cp):	0.84

PENSACOLA P.O.C., INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 3

CALCULATIONS

Temperature of stack (Ts) = total of ts / no. of points + 460 = 639

Average square root of delta P = total of SR of delta P / no. of points = 0.510

Percent C0 + N2 = 100 - %C02 - %02 = 79.3

Area of nozzle (As) in SF: 0.0005241

Average delta H = total of delta H / no. of points = 1.382

Temperaure of meter (Tm) = total of tm in & tm out / 2 (no. of points) + 460 = 565

Particulate gain (Mn) in mg = M (1,000) = 307.00

Stack Absolute Pressre (Ps) in "Hg

Ps = Pb + (stack static pressure / 13.6)

Ps= 30.11

Standard Volume Metered (Vm(std)) in DSCF

Vm(std) = (Vm)(Ym)(17.647)[(Delta H / 13.6 + Pb) / Tm]

Vm(std) = 39.47

Water collected in impingers (Vwi(std)) in SCF

Vwi(std) = (0.04707 CF/ml) (impinger water gain) =

Vwi(std) = 12.85

Water collected in silica gel (Vwsg(std)) in SCF

Vwsg(std) = (0.04715 CF/g) (silica gel gain)

Vwsg(std) = 0.49

Moisture Content of Stack Gas (Bws)

Bws = (Vwi(std) + Vwsg(std)) / (Vwi(std) + Vwsg(std) + Vm(std))

Bws = 0.25

PENSACOLA P.O.C, INC.

Client: LFC Power Systems
Source: Wet Scrubber
Location: Madison, FL
Date of Test: January 24, 1995

Run No.: 3

Dry Molecular Weight of Stack Gas (Md) in lb/lb mole

Md = (0.44) (% C02) + (0.32) (%02) + (0.28) (%C0 + %N2)

Md = 30.77

Wet Molecular Weight of Stack Gas (Ms) in lb/lb mole

Ms = Md (1- Bws) + 18 Bws

Ms = 27.55

Average Stack Gas Velocity (Vs) in ft/sec

Vs = (85.49)(Cp) [SQR[Ts / (Ps * Ms)] (SqR Delta P)

Vs = 32.14

Volumetric Flow Rate (Qa) in ACFM

Qa = (Vs) (As) (60)

Qa = 51449

Volumetric Flow Rate (Qs) in DSCFM

Qs = (Qa) (1 - Bws) (17.647) (Ps / Ts)

Qs = 31983.28

Particulate Mass Rate (PMR) in lb/hr

PMR = (M / Vm(std))(Qs * 60) (0.0022 lb/g)

PMR = 32.840

Percent Isokinetic Variation (I)

I = [(Ts)(Vm(std))(29.92)(100)] / [(An)(Min)(Vs)(Ps)(528)(60)(1-Bw

I = 104.69

Particulate Concentration (Cs) in grains/DSCF

Cs = 0.0154 (Mn / Vm(std))

Cs = 0.11979

Field Data Sheets

PENSACOLA E.O.C, INC.
192 SOUTH SECOND ST
PENSACOLA, FL 32597
(904) 456-4106

PRELIMINARY STACK DATA

COMPANY TESTED: LFC Power

LOCATION: Madison DATE: 1-20-95

BAROMETRIC PRESSURE: P_b = _____ in. Hg. TIME: 9:35

Pitots checked: ✓

STACK STATIC PRESSURE: P_s' = _____" W.G. 1690

PORT 1

No.	ΔP_{ver}	ΔP_{hor}	∠ Null	Temp.
1	0.17	0.03	7°	
2	0.19	0.00		
3	0.23	0.05	7	
4	0.23	0.04	12°	
5	0.22	0.05	7°	
6	0.22	0.07	12°	
7	0.24	0.08	3°	
8	0.27	0.03	6°	
9	0.22	0.03	3°	
10	0.21	0.03	3°	
11	0.21	0		
12	0.18	-	5°	
13				
14				
15				
16				
Aver.				

PORT _____

No.	ΔP_{ver}	ΔP_{hor}	∠ Null	Temp.
1	0.23	0.03	8°	
2	0.26	0.02	8°	
3	0.28	0.03	8°	
4	0.24	0.04	5°	
5	0.21	0.03	8	
6	0.21	0.04	5°	
7	0.21	00		
8	0.21	0.03	6	
9	0.21	0.04	7	
10	0.22	0.06	10	
11	0.17	0.05	8	
12	0.18	0.05	8°	
13				
14				
15				
16				
Aver.				

AVER. $\overline{\Delta P_v}$ = _____ AVER. ∠ OF NULL = _____

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

COMPANY NAME: LFC Power DATE: 1-24-95

SOURCE: Scrubber LOCATION: Madison, FL

PROBE: 7' SS

NOZZLE: 5/16" SS

K FACTOR: 5.26

BAR. PRESS: 30.19

STACK STATIC PRESSURE: -0.22

RUN NO.: 1

DEP OBSERVERS
S. Mazur

FLORIDA
STANLEY B. MAZUR
AIR COMPLIANCE

LEAK CHECKS: Pitot: Pretest ✓ Posttest ✓

Particulate Train:	Pretest	Posttest
"Hg	14	16
Sec.s	60	60
Meter In	543.13	587.702
Meter Out	543.43	587.705

Bag Collection Train: (10" WG, 30 sec.s)	Pretest	Posttest
	✓	✓

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

5.26

SOURCE: LFC - Madison 1-24-95

RUN NO: 4

Pt	Min.s	Meter Reading	ΔP	SR ΔP	ΔH	Vac	Meter In	Meter Out	Stack Temp	Stack Temp Corr.	Probe Temp	Hotbox Temp.	4th Imp
	25												
1	10:17	545.4	0.24		1.26	3.0	58	56	166		224	225	49
2		546.9	0.25		1.32	3.0	63	56	167		228	242	48
3		548.5	0.28		1.47	3.5	69	58	172		227	266	47
4		550.2	0.31		1.63	4.0	75	60	168		225	245	46
5		552.0	0.30		1.58	4.0	80	62	174		229	238	46
6		553.8	0.34		1.79	5.0	85	64	170		230	241	46
7		555.7	0.30		1.58	4.0	89	66	172		227	257	46
8		557.5	0.31		1.63	5.0	92	68	166		228	240	47
9		559.3	0.32		1.68	5.0	94	69	165		229	242	47
10		561.1	0.30		1.58	5.0	96	71	165		229	258	47
11		562.9	0.26		1.37	5.0	98	73	167		230	250	47
12		564.6	0.27		1.42	4.5	99	74	164		228	254	47
1	10:51	566.3	0.14		0.74	3.0	90	75	151		230	259	48
2		567.8	0.22		1.16	4.5	92	76	155		231	257	47
3		569.2	0.26		1.37	5.0	96	78	159		230	253	46
4		570.9	0.29		1.53	6.0	99	79	156		232	261	46
5		572.6	0.30		1.58	6.5	102	80	158		233	253	46
6		574.4	0.34		1.79	7.5	105	81	160		233	266	46
7		576.4	0.32		1.68	7.0	107	83	156		234	266	47
8		578.2	0.32		1.68	7.5	109	84	163		234	243	48
9		580.1	0.34		1.79	8.0	110	85	164		234	259	48
10		582.0	0.33		1.74	8.0	112	86	167		235	252	48
11		583.9	0.31		1.63	8.5	113	87	164		234	254	49
12		585.8	0.28		1.47	8.0	114	88	163		234	258	49
		587.6											
		11:22											

RLS

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

SOURCE: LFC Madison 1-24-95

RUN NO.: 1

NOZZLE SIZE: 0.310 (1) 0.311 (2) 0.310 (3) 0.310 (Average)

Liquid: DI H_2O	In	Out	Color	Gain
Cyclone	N/A			
Impinger #1	100 ml	250+ 122	slightly cloudy	
Impinger #2	100 ml	114	clear	
Impinger #3	-0-			
Impinger #4	N/A			
			Total 284	ml

Silica Gel Empty Container: 621 g

	In	Out	Color	Gain
Gross Weight	314.7	325.4	pink	10.7

Color of filter: gray

Liquid level marked: ✓

Filter: F56
Posttest Weight 0.7914 g
Pretest Weight 0.5807 g
Gain 0.2107 g

Wash: B222
Posttest Weight 110.1493 g
Pretest Weight 110.0784 g
Gain 0.0709 g

Total Gain: 0.2816 g

Wash sample weight includes all material scrubbed from inside surfaces of collection train between nozzle and filter.

Weights represent final weights after samples have been desiccated and weighed to constant weight.

BLD

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

COMPANY NAME: LFC DATE: 1-24-95

SOURCE: Scrubber LOCATION: Madison

PROBE: 7' SS

NOZZLE: 5/16" SS

K FACTOR: 5.26

BAR. PRESS: 30.22

STACK STATIC PRESSURE: -0.21

RUN NO.: 2.

LEAK CHECKS: Pitot:

	Pretest	Posttest
	✓	✓

Particulate Train:

	Pretest	Posttest
"Hg	13	13
Sec.s	60	60
Meter In	588.000	631.855
Meter Out	588.005	631.856

Bag Collection Train:
(10" WG, 30 sec.s)

Pretest	Posttest
	✓

5.26

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

SOURCE: LFC Madison 1-24-75

RUN NO: 2

Pt	Min.s	Meter Reading	ΔP	SR ΔP	ΔH	Vac	Meter In	Meter Out	Stack Temp	Stack Temp Corr.	Probe Temp	Hotbox Temp.	4th Imp
	2,5												
1	12:47	588.1	0.14		0.74	1.5	73	73	164		239	257	56
2		589.4	0.21		1.10	2.5	79	75	164		240	255	52
3		590.9	0.24		1.26	3.0	84	76	188		242	252	51
4		592.5	0.33		1.74	4.0	90	77	181		243	256	50
5		594.3	0.32		1.68	4.0	96	79	185		244	249	50
6		596.2	0.32		1.68	4.5	99	81	184		243	250	50
7		598.1	0.37		1.95	6.0	103	82	181		245	256	50
8		600.1	0.31		1.63	4.5	107	84	177		246	255	50
9		601.9	0.35		1.84	6.5	109	86	178		245	262	51
10		603.8	0.34		1.79	6.5	111	87	175		244	255	51
11		605.8	0.29		1.53	6.0	113	89	175		245	263	51
12		607.6	0.27		1.42	6.0	114	90	177		246	258	52
1	1:17	609.4	0.20		1.05	4.5	110	91	169		243	264	52
2		610.9	0.29		1.53	6.5	112	91	181		244	253	52
3		612.7	0.31		1.63	7.0	115	93	180		245	259	52
4		614.5	0.30		1.58	7.0	117	94	182		246	260	52
5		616.4	0.33		1.74	7.5	119	95	181		245	256	52
6		618.3	0.38		2.00	9.0	121	96	183		244	253	52
7		620.3	0.35		1.84	9.0	123	97	183		242	259	52
8		622.3	0.32		1.68	9.5	124	98	185		243	250	53
9		624.3	0.33		1.74	9.5	125	99	192		244	257	53
10		626.2	0.30		1.58	9.5	126	99	175		243	254	54
11		628.1	0.31		1.63	10.0	127	100	187		242	256	54
12		630.0	0.24		1.26	8.5	127	101	187		241	257	54
	13:49	631.7											

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

SOURCE: LFC - Madison

RUN NO.: 2

NOZZLE SIZE: 0.311 (1) 0.310 (2) 0.310 (3) 0.310 (Average)

Liquid: DI H_2O	In	Out	Color	Gain
Cyclone	N/A	1		
Impinger #1	100 mL	250+ 122	little cloudy	
Impinger #2	100 mL	100		
Impinger #3	-0-	-0-		
Impinger #4	N/A			
			Total	272 ml

Silica Gel Empty Container: 601.9 g				
	In	Out	Color	Gain
Gross Weight	295.3	305.9	1/4 pink	10.6

Color of filter: gray

Liquid level marked: ✓

Filter: F57
Posttest Weight 0.8497 g
Pretest Weight 0.5731 g
Gain 0.2766 g

Wash: B210
Posttest Weight 106.5363 g
Pretest Weight 106.4710 g
Gain 0.0653 g

Total Gain: 0.3419 g

Wash sample weight includes all material scrubbed from inside surfaces of collection train between nozzle and filter.

Weights represent final weights after samples have been desiccated and weighed to constant weight.

BLD

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

COMPANY NAME: LFC Power DATE: 1-24-95

SOURCE: Scrubber LOCATION: Madison

PROBE: 7' SS

NOZZLE: 3/16" SS

K FACTOR: 5.26

BAR. PRESS: 30.13

STACK STATIC PRESSURE: -0.23

RUN NO.: 3

LEAK CHECKS: Pitot:

	Pretest	Posttest
	✓	✓

Particulate Train:

	Pretest	Posttest
"Hg	10	17
Sec.s	60	60
Meter In	632.904	673.361
Meter Out	632.905	673.361

Bag Collection Train:
(10" WG, 30 sec.s)

	Pretest	Posttest
		✓

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

5-26 1-24-93

SOURCE: LFC - Madison

RUN NO: 23

Pt	Min.s 2.5.	Meter Reading	ΔP	SR ΔP	ΔH	Vac	Meter In	Meter Out	Stack Temp	Stack Temp Corr.	Probe Temp	Hotbox Temp.	4th Imp
1	2:31	632.2	0.16		0.84	2.5	88	86	180		230	229	58
2		633.6	0.19		1.00	2.5	93	89	183		229	243	53
3		635.6	0.25		1.32	3.0	98	88	184		231	256	54
4		636.6	0.27		1.47	4.0	103	89	183		230	242	53
5		638.3	0.29		1.53	4.5	108	90	185		230	245	52
6		640.1	0.31		1.63	5.0	111	91	183		227	261	52
7		642.0	0.30		1.58	5.5	114	92	186		228	249	52
8		643.5	0.27		1.42	5.0	116	93	187		230	250	52
9		645.6	0.28		1.47	5.5	117	93	185		232	265	50
10		647.3	0.23		1.32	5.0	118	94	185		231	254	52
11		649.0	0.25		1.32	5.0	119	95	184		230	249	52
12		650.7	0.24		1.26	5.0	120	96	181		229	234	52
1	3:03	652.4	0.14		0.74	3.5	115	96	169		230	254	54
2	~~3:03~~	653.7	0.20		1.05	4.5	116	96	169		227	250	53
3		655.2	0.23		1.21	5.0	118	97	176		229	247	53
4		656.8	0.27		1.42	6.0	120	98	177		231	256	52
5		658.5	0.29		1.53	6.5	121	98	173		230	246	52
6		660.4	0.31		1.63	7.5	123	99	174		233	257	52
7		662.2	0.32		1.68	8.0	124	100	175		235	250	52
8		664.1	0.30		1.58	8.0	125	100	172		234	251	50
9		665.9	0.30		1.55	8.5	126	101	174		231	253	52
10		667.8	0.30		1.55	8.5	126	101	177		230	238	52
11		669.6	0.29		1.53	9.0	126	101	173		228	240	52
12		671.3	0.28		1.47	9.0	126	101	175		227	238	52
	3:33	673.2											

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

SOURCE: LFC - Madison

RUN NO.: 3

NOZZLE SIZE: _____ (1) _____ (2) _____ (3) 0.310 (Average)

Liquid: DI H_2O	In	Out	Color	Gain
Cyclone	N/A			
Impinger #1	100 mL	250 + 120	Slightly Green	
Impinger #2	100 mL	203	Clear	
Impinger #3	-0-			
Impinger #4	N/A			
			Total 273	ml

Silica Gel Empty Container: 614 g				
	In	Out	Color	Gain
Gross Weight	303.8	314.2	1/4 Pink	10.4

Color of filter: grey

Liquid level marked: ✓

Filter: F58
Posttest Weight 0.8259 g
Pretest Weight 0.5811 g
Gain 0.2448 g

Wash: B322
Posttest Weight 107.0976 g
Pretest Weight 107.0354 g
Gain 0.0622 g

Total Gain: 0.3070 g

Wash sample weight includes all material scrubbed from inside surfaces of collection train between nozzle and filter.

Weights represent final weights after samples have been desiccated and weighed to constant weight.

BLD

PENSACOLA P.O.C., IN
109 SOUTH SECOND S
PENSACOLA, FL 3250
(904) 456-4406

ORSAT DATA SHEET

SOURCE: LFC POWER MADISON FL. 1/24/95 KCS

Run # 1 Cont - Grab	Actual Reading	Net	Actual Reading	Net	Actual Reading	Net	Av
C02	16.2	16.2	16.1	16.1	16.1	16.1	16.1
02 (Net is actual 02 minus actual C02 reading)	20.6	4.4	20.6	4.5	20.6	4.5	4.5
C0 (Net is actual minus 02 reading)							
N2 (Net is 100 minus actual C0)	N/A		N/A		N/A		
Run # 2 Cont - Grab	Actual Reading	Net	Actual Reading	Net	Actual Reading	Net	Av
C02	15.7	15.7	15.8	15.8	15.8	15.8	15.8
02 (Net is actual 02 minus actual C02 reading)	20.0	4.3	20.2	4.4	20.1	4.3	4.3
C0 (Net is actual minus 02 reading)							
N2 (Net is 100 minus actual C0)	N/A		N/A		N/A		
Run # 3 Cont - Grab	Actual Reading	Net	Actual Reading	Net	Actual Reading	Net	Av
C02	16.2	16.2	16.2	16.2	16.1	16.1	16.2
02 (Net is actual 02 minus actual C02 reading)	20.6	4.4	20.7	4.5	20.6	4.5	4.5
C0 (Net is actual minus 02 reading)							
N2 (Net is 100 minus actual C0)	N/A		N/A		N/A		

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

THERMOCOUPLE CALIBRATION CHECK

Source: LFC Madison

Date: 1-24-95 Technician BS

Reference Thermometer: Calibrated Mercury-in-glass

Reference Source: Ambient Air

Thermometer	Pretest	Posttest	Reference	Difference
4th Impinger	46		46	
		39	39	
Stack	45		46	
		39	39	
Meter In	52		52	
		39	39	
Meter Out	52		51	
		39	39	

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

LFC - Madison
1-24-95

ON-SITE MEASUREMENTS CHECKLIST

Sampling Train Schematic Drawing

Apparatus

Probe nozzle: stainless steel ✓ glass ____
Button-hook ✓ elbow ____ size ____
Clean? ✓
Probe liner: borosilicate ✓ quartz ____ other SS ✓
Clean?
Heating system* elec
Checked? ✓
Pitot tube: Type S ✓ other ____
Properly attached to probe?* ✓
Modifications NO
Pitot tube coefficient 0.84
Differential pressure gauge: two inclined manometers ✓
other ____ sensitivity ____
Filter holder: borosilicate glass ✓ glass frit ✓
filter support ____ silicone gasket ✓ other ____
Clean? ✓
Condenser: number of impingers 4
Clean? ✓
Contents: 1st 100 mL 2nd 100 mL 3rd -0- 4th silica gel
Cooling system ice & water bath
Proper connections? ✓
Modifications NO

Barometer: mercury ____ aneroid ✓ other ____
Gas density determination: temperature sensor type thermocouple
pressure gauge ____
temperature sensor properly attached to probe?* ____

Procedure

Recent calibration: pitot tubes* ✓
meter box* ✓ thermometers/thermocouples* ✓
Filters checked visually for irregularities?* ✓
Filters properly labeled?* ✓
Sampling site properly selected? ✓
Nozzle size properly selected?* ✓

(continued)

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

(continued)

Selection of sampling time? 2.5 min
All openings to sampling train plugged to prevent pretest contamination? ✓
Impingers properly assembled? ✓
Filter properly centered? ✓
Pitot tube lines checked for plugging or leaks?* ✓
Meter box leveled? ✓ Periodically? ✓
Manometers zeroed? ✓
ΔH@ from most recent calibration
Nomograph set up properly?
Care taken to avoid scraping nipple or stack wall?* ✓
Effective seal around probe when in-stack? ✓
Probe moved at proper time? ✓
Nozzle and pitot tube parallel to stack wall at all times?* ✓
Filter changed during run? NO
Any particulate lost? N/A
Data forms complete and data properly recorded?* ✓
Nomograph setting changed when stack temp changed significantly?

Velocity pressure and orifice pressure readings recorded accurately?* ✓
Posttest leak check performed?* ✓ (mandatory)
Leakage rate see data sheets @ in. Hg
Orsat analysis ✓ from stack integrated ✓
Fyrite combustion analysis N/A sample location
Bag system leakchecked?* ✓
If data forms cannot be copied, record:
approximate stack temp volume metered
% isokinetic calculated at end of each run

SAMPLE RECOVERY

Brushes: nylon bristle ✓ other
Clean?
Wash bottles: glass polyethylene ✓
Clean? ✓
Storage containers: borosilicate glass other ✓
Clean? Leakfree?
Petri dishes: glass polyethylene ✓ other
Clean?
Graduated cylinder/or balance: subdivisions ≤2 ml?* ✓
other
Balance: type analytical ✓
Plastic storage containers: airtight? ✓
Clean?
Probe allowed to cool sufficiently? ✓
Cap placed over nozzle tip to prevent loss of particulate?* ✓

(continued)

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

(continued)

During sampling train disassembly, are all openings capped? ✓
Clean-up area description: Matchom L.
Clean? ✓ Protected from wind? ✓
Filters: glass fiber ✓ type Whatman 934 AH ✓
Silica gel: type (6 to 16 mesh)? new? ____ used? ✓
Color? blue Condition? good
Filter handling: tweezers used? ✓
surgical gloves? ____ other ____
Any particulate spilled?* NO
Water distilled? N/A
Stopcock grease: acetone-insoluble? ✓
heat-stable silicone? ____ other ____
Probe handling: acetone rinse ✓
distilled water rinse N/A
Particulate recovery from: probe nozzle ✓
probe fitting ✓ probe liner ✓
front half of filter holder ✓
Blank: acetone ✓ distilled water N/A
Any visible particles on filter holder inside probe?:* N/A

All jars adequately labeled? ✓ Sealed tightly? ✓
Liquid level marked on jars?* ____
Locked up? ✓
Acetone reagent: <0.001% residue? ✓
glass bottles in lab ✓ (required)
acetone blanks? ✓

*Most significant items/parameters to be checked.

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

Nomenclature

ΔH	=	Pressure differential across orifice, inches H_2O
θ	=	Time for each calibration run, minutes
P_b	=	Barometric Pressure, inches Hg.
t_d	=	Average temperature of gas in console test meter, obtained by the average t_{di} and t_d, ^0F.
t_{di}	=	Temperature of inlet gas of console test meter, ^0F.
t_{do}	=	Temperature of outlet gas of console test meter, ^0F.
t_{ds}	=	Temperature of gas in certified test meter, ^0F.
V_d	=	Gas volume passing through metering console, ft^3.
V_{ds}	=	Gas volume passing through certified test meter, ft^3.
Y_d	=	Average coefficient of metering console.
Y_{di}	=	Coefficient of metering console for individual runs.

PENSACOLA PORTS INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

POSTTEST ISOKINETIC METERBOX CALIBRATION

Console No. 1 Date 1-25-95 Calibrated by _____

Barometric Pressure (P_b) 30.10 Console Vacuum _____ "Hg

Standard Meter: Equimeter R275, 2656264 Std. Meter Coefficient (Y_{ds}) 0.994

Leak Check 15 "WG 60 seconds Meter In 673.910 Meter Out 673.910

Min. Vol. cf	Time θ min.		Std. Meter Gas Vol. V_{ds} cf	Std. Meter Temp. t_{ds} F	Metering Console Orifice Setting ΔH "WG	Metering Console Gas Vol. V_d cf	Metering Console Temp. t_{di} F	Metering Console Temp. t_{do} F	Coef Y_{di}
5.0		Start	240.600	65	1.5	674.000	65	65	1.02
		Stop	245.600	65		678.899	78	66	
5.0		Start	245.700	65	1.5	678.900	83	68	1.03
		Stop	250.700	65		683.852	92	69	
5.0		Start	250.800	66	1.5	683.900	91	71	1.03
		Stop	255.800	66		688.904	112	73	
							Posttest y_d		1.03

Pretest y_d = 1.02

Allowable tolerance = y_d +/- 0.05 y_d = 0.97 to 1.07

Ok ✓ Need to recalibrate NO

PEN[redacted]COL[redacted]D.C.,[redacted]
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

$$Y_{di} = (Y_{ds})(V_{ds})\ (t_d + 460)(P_b) / (V_d)\ (t_{ds} + 460)\ (P_b + (\Delta H/13.6))$$

Delta H of 1.50

Y_{di} = (0.9994)(5.000)(528.5)(30.1) / (4.899)(525)(30.23) = 1.02

Delta H of 1.50

Y_{di} = (0.9994)(5.000)(538)(30.1) / (4.952)(525)(3023) = 1.03

Delta H of 1.50

Y_{di} = (0.9994)(5.000)(547)(30.1) / (5.004)(526)(3023) = 1.03

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

Nomenclature

ΔH	=	Pressure differential across orifice, inches H_2O
θ	=	Time for each calibration run, minutes
P_b	=	Barometric Pressure, inches Hg.
t_d	=	Average temperature of gas in console test meter, obtained by the average t_{di} and t_d, ^0F.
t_{di}	=	Temperature of inlet gas of console test meter, ^0F.
t_{do}	=	Temperature of outlet gas of console test meter, ^0F.
t_{ds}	=	Temperature of gas in certified test meter, ^0F.
V_d	=	Gas volume passing through metering console, ft^3.
V_{ds}	=	Gas volume passing through certified test meter, ft^3.
Y_d	=	Average coefficient of metering console.
Y_{di}	=	Coefficient of metering console for individual runs.

Visible Emissions Tests

EPA

VISIBLE EMISSION OBSERVATION FORM 1

Form Number: 1 2 4 9 5 | Page: 1 of 2

Continued on VEO Form Number: 12495A

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Company Name: LFC Power Systems

Facility Name: Co LFC Power

Street Address: CR 591

City: Madison | State: FL | Zip:

Process: Combustion (wood burning) | Unit #: 1 | Operating Mode: continuous

Control Equipment: scrubber | Operating Mode: continuous

Describe Emission Point: round stack

Height of Emiss. Pt.: Start ± 55 End

Height of Emiss. Pt. Rel. to Observer: Start ± 5 End

Distance to Emiss. Pt.: Start ± 175 End

Direction to Emiss. Pt. (Degrees): Start 16° N End

Vertical Angle to Obs. Pt.: Start Unk ° End

Direction to Obs. Pt. (Degrees): Start 52 - 120° N End

Distance and Direction to Observation Point from Emission Point: Start 200 - 1000' End

Describe Emissions: Start Leaping - fumigal End

Emission Color: Start white End

Water Droplet Plume: Attached ☑ Detached ☐ None ☐

Describe Plume Background: Start sky & trees End

Background Color: Start blue-green End

Sky Conditions: Start <10% End

Wind Speed: Start VAR 3-10 End

Wind Direction: Start N - NNW End

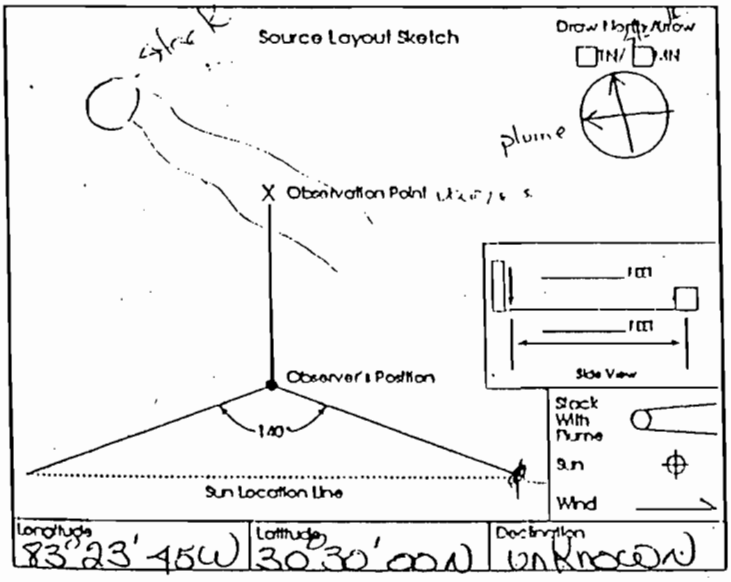
Ambient Temp.: Start 78° F End

Wet Bulb Temp.: 71° F

Rel. Percent: ± 54 - 70

Source Layout Sketch

Draw North Arrow ☐ IN / ☐ IN



Longitude: 83°23'45W | Latitude: 30°30'00N | Description: Unknown

Additional Information: AC 40 - 248255

ID 31GVL4000110

Observation Date	Time Zone	Start Time	End Time
1-24-95	Eastern	12:41	

Min \ Sec	0	15	30	45	Comments
1	10	10	10	10	
2	10	10	10	10	
3	10	15	5	5	
4	5	15	10	5	
5	10	10	5	10	
6	10	5	5	10	
7	5	5	0	10	
8	10	10	5	5	
9	5	10	10	10	
10	10	10	15	20	
11	15	10	10	10	
12	5	5	10	10	
13	10	20	5	10	
14	10	5	10	10	
15	15	10	10	10	
16	10	10	10	10	
17	10	5	5	10	
18	0	5	10	10	
19	5	5	10	15	
20	10	10	5	5	
21	10	5	10	20	
22	10	10	10	20	
23	10	10	5	10	
24	10	10	10	5	
25	10	10	10	10	
26	10	5	10	10	
27	10	10	15	10	
28	10	5	10	10	
29	10	10	10	20	
30	10	10	10	10	

Observer's Name (Print): Barbara Sjuglin

Observer's Signature: Barbara Sjuglin | Date: 1-24-95

Organization: Pensacola P.O.C. Inc.

Certified by: ETA | Date: 11-94

VEOF1.1

EPA

VISIBLE EMISSION OBSERVATION FORM 1

Form Number: 1 2 4 9 5 Page 2 of 2

Continued on VEO Form Number:

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Company Name: LFC Power Systems Corp
Facility Name: LFC Power
Street Address: CR 591
City: Madison | State: FL | Zip:

Process: | Unit #: | Operating Mode:
Control Equipment: Scrubber | Operating Mode: 2

Describe Emission Point: see page 1 of

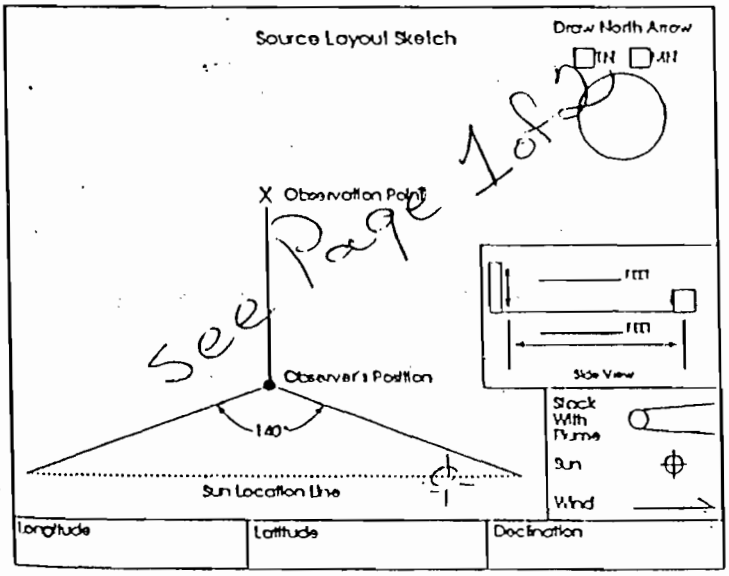
Height of Emiss. Pt. — Start: | End: Same
Height of Emiss. Pt. Rel. to Observer — Start: | End: Same
Distance to Emiss. Pt. — Start: | End: Same
Direction to Emiss. Pt. (Degrees) — Start: | End: Same
Vertical Angle to Obs. Pt. — Start: | End: Same
Direction to Obs. Pt. (Degrees) — Start: | End: Same
Distance and Direction to Observation Point from Emission Point — Start: | End: Same

Describe Emissions — Start: | End: Same
Emission Color — Start: | End: Same
Water Droplet Plume — Attached ☑ Detached ☐ None ☐

Describe Plume Background — Start: | End: Same
Background Color — Start: | End: Same
Sky Conditions — Start: | End: Same
Wind Speed — Start: | End: Same
Wind Direction — Start: | End: Same
Ambient Temp. — Start: | End: Same
Wet Bulb Temp.:
RH Percent:

Source Layout Sketch

Draw North Arrow ☐ TN ☐ MN



Longitude | Latitude | Declination

Additional Information

Observation Date	Time Zone	Start Time	End Time
		1:14	

Sec / Min	0	15	30	45	Comments
1	10	10	10	15	
2	10	10	10	10	
3	10	10	5	5	
4	10	10	10	10	
5	10	10	15	10	
6	5	10	10	10	
7	5	10	10	15	
8	5	10	10	10	
9	10	5	10	10	
10	10	10	10	10	
11	10	10	10	10	
12	10	15	10	10	
13	5	5	10	10	
14	10	10	10	10	
15	10	20	0	0	
16	10	10	10	5	
17	5	5	15	0	
18	10	10	10	10	
19	10	10	10	10	
20	10	10	10	5	
21	15	10	10	10	
22	10	5	10	10	
23	10	10	10	10	
24	0	5	10	10	
25	5	10	10	10	
26	10	10	15	10	
27	10	20	5	10	
28	10	5	5	10	
29	10	10	5	10	
30	10	10	10	10	

Observer's Name (Print): Barbara Sveum
Observer's Signature: Barbara Sveum | Date: 1-24-95
Organization: Pensacola P.O.C. Inc.
Certified By: ETA | Date: 11-94

VEOF1.1

Name of Source: LFC Power Systems Corp.

Observer: Barbara Sviglin

File Name: B:LFCMAd

Start Time:1244 Stop Time: 1344 Date of Test: 01-24-95

- O R I G I N A L D A T A -

Sec>> Min	00	15	30	45	Sec>> Min	00	15	30	45
1	10	10	10	10	31	10	10	10	5
2	10	10	10	10	32	10	10	10	10
3	10	15	5	5	33	10	10	5	5
4	5	15	10	5	34	10	10	10	10
5	10	10	5	10	35	10	10	15	10
6	10	5	5	10	36	5	10	10	10
7	5	5	0	10	37	5	10	10	15
8	10	10	5	5	38	5	10	10	10
9	5	10	10	10	39	10	5	10	10
10	10	10	15	20	40	10	10	10	10
11	15	10	10	10	41	10	10	10	10
12	5	5	10	10	42	10	15	10	10
13	10	20	5	10	43	5	5	10	10
14	10	5	10	10	44	10	10	10	10
15	15	10	10	10	45	10	20	0	0
16	10	10	10	10	46	10	10	10	5
17	10	5	5	10	47	5	5	5	0
18	0	5	10	10	48	10	10	10	10
19	5	5	10	15	49	10	10	10	10
20	10	10	5	5	50	10	10	10	5
21	10	5	10	20	51	15	10	10	10
22	10	10	10	20	52	10	5	10	10
23	10	10	5	10	53	10	10	10	10
24	10	10	10	5	54	0	5	10	10
25	10	10	10	10	55	5	10	10	10
26	10	5	10	10	56	10	10	15	10
27	10	10	15	10	57	10	20	5	10
28	10	5	10	10	58	10	5	5	10
29	10	10	10	20	59	10	10	5	10
30	10	10	10	10	60	10	10	10	10

NOTE: _____

OPACICALC 3.1: SERIAL # 042-029 REGISTERED TO: PENSACOLA P.O.C. Inc.

DATE PRINT: 02-02-1995 TIME PRINT:15:00:43

Name of Source: LFC Power Systems Corp.

Observer: Barbara Sviglin

File Name: B:LFCMAd

Start Time:1244 Stop Time: 1344 Date of Test: 01-24-95

- R O L L I N G A V E R A G E S -

Sec>> Min	00	15	30	45	Sec>> Min	00	15	30	45
1	-	-	-	-	31	10	10	10	10
2	-	-	-	-	32	10	10	10	10
3	-	-	-	-	33	10	10	10	10
4	-	-	-	-	34	10	10	10	10
5	-	-	-	-	35	10	10	10	10
6	-	-	-	9	36	9	9	9	9
7	9	9	8	8	37	9	9	9	10
8	8	8	8	8	38	9	9	9	9
9	7	7	7	8	39	9	9	9	10
10	8	8	8	9	40	10	10	10	10
11	9	9	9	9	41	10	10	9	9
12	9	9	9	9	42	10	10	10	10
13	9	10	10	10	43	10	10	10	9
14	10	10	10	10	44	10	10	10	10
15	11	11	11	11	45	10	10	10	9
16	11	11	10	10	46	9	9	9	9
17	10	10	9	9	47	9	9	9	8
18	9	9	9	9	48	8	8	8	8
19	9	8	9	9	49	8	8	8	8
20	9	9	9	9	50	8	8	8	8
21	8	8	8	9	51	8	8	8	9
22	9	9	9	9	52	9	9	9	9
23	9	9	9	9	53	9	9	9	10
24	10	10	10	10	54	9	9	9	9
25	10	10	10	10	55	9	9	9	9
26	10	10	10	10	56	9	9	9	9
27	10	10	10	10	57	9	10	9	9
28	10	10	10	9	58	9	9	9	9
29	9	9	10	10	59	9	9	9	9
30	10	10	10	10	60	9	10	10	10

BLOCK SIZE (for Rolling Averages) = 24 READINGS

*The highest BLOCK in this ROLLING AVERAGE is at 15 Min and 0 Sec

>> OPERATION WAS PERFORMED ON THE: original DATA. <<

NOTE: _____

OPACICALC 3.1: SERIAL # 042-029 REGISTERED TO: PENSACOLA P.O.C. Inc.

DATE PRINT: 02-02-1995 TIME PRINT:15:14:37

Name of Source: LFC Power Systems Corp.

Observer: Barbara Sviglin

File Name: B:LFCMAd

Start Time:1244 Stop Time: 1344 Date of Test: 01-24-95

- B L O C K A V E R A G E S -

Sec>> Min	00	15	30	45	Sec>> Min	00	15	30	45
1	-	-	-	-	31	-	-	-	-
2	-	-	-	-	32	-	-	-	-
3	-	-	-	-	33	-	-	-	-
4	-	-	-	-	34	-	-	-	-
5	-	-	-	-	35	-	-	-	-
6	-	-	-	-	36	-	-	-	-
7	-	-	-	-	37	-	-	-	-
8	-	-	-	-	38	-	-	-	-
9	-	-	-	-	39	-	-	-	-
10	-	-	-	-	40	-	-	-	-
11	-	-	-	-	41	-	-	-	-
12	-	-	-	-	42	-	-	-	-
13	-	-	-	-	43	-	-	-	-
14	-	-	-	-	44	-	-	-	-
15	-	-	-	-	45	-	-	-	-
16	-	-	-	-	46	-	-	-	-
17	-	-	-	-	47	-	-	-	-
18	-	-	-	-	48	-	-	-	-
19	-	-	-	-	49	-	-	-	-
20	-	-	-	-	50	-	-	-	-
21	-	-	-	-	51	-	-	-	-
22	-	-	-	-	52	-	-	-	-
23	-	-	-	-	53	-	-	-	-
24	-	-	-	-	54	-	-	-	-
25	-	-	-	-	55	-	-	-	-
26	-	-	-	-	56	-	-	-	-
27	-	-	-	-	57	-	-	-	-
28	-	-	-	-	58	-	-	-	-
29	-	-	-	-	59	-	-	-	-
30	-	-	-	-	60	-	-	-	9

BLOCK SIZE = 240 READINGS

>> OPERATION WAS PERFORMED ON THE: original DATA. <<

NOTE: _____

_____

)PACICALC 3.1: SERIAL # 042-029 REGISTERED TO: PENSACOLA P.O.C. Inc.

)ATE PRINT: 02-02-1995 TIME PRINT:15:16:30

Nomenclature

NOMENCLATURE

A_n = Cross-sectional area of nozzle, ft^2 (3 significant digits)

A_s = Area of stack, ft^2

B_{ws} = Water vapor in gas stream, proportion by volume (dimensionless)

C_p = Pitot tube coefficient (dimensionless)

C_s = Particulate concentration, grains/DSCF

C_{12} = Particulate concentration (C_s adjusted to 12% CO_2) grains/DSCF

$C_s\ (12\ /\ \%CO_2)$

C_{50} = Particulate concentration (C_s adjusted to 50% excess air) grains/DSCF

$C_s\ /\{1 - [(1.5)(\%O_2) - 0.133(\%N_2) - 0.75(\%CO)\ /\ 21\ ]\}$

E = Emission rate in terms of applicable standard

EA = Excess air, %

E_c = Emission rate corrected for anisokinetic sampling conditions

$E\ (\%I\ /\ 100)$

%I = Percent of isokinetic sampling

K_n = Orifice correction factor (dimensionless)

$Q_n\ [(P_n\ (M_n)/(T_n\ \ \Delta H)]^{1/2}$

K_p = Pitot tube constant

85.49 ft/sec $[(lb/lb\text{-}mole)("Hg)/(^0R)("WG)]^{1/2}$

M = Particulate matter collected, g

M_n = Particulate matter collected, mg

M_d = Molecular weight of stack gas; dry basis, lb/lb-mole

M_s = Molecular weight of stack gas; wet basis, lb/lb-mole

P_b = Barometric pressure at sampling site, "Hg

PMR = Particulate mass rate, lb/hr

P_s = Stack absolute pressure, "Hg

P_{std} = Standard absolute pressure, 29.92 "Hg

Q_a = Volumetric flow rate, ACFM

Q_s = Volumetric flow rate, DSCFM

Q_m = Orifice flow

$$V_2 - V_1 \;/\; \Theta\, [(t_2 + 460) \;/\; (t_1 + t_2) \;/\; 2 + 460]\; 60\; Y_m$$

t_m = Temperature of meter, ^0F

T_m = Temperature of meter, ^0R

t_s = Temperature of stack, ^0F

T_s = Temperature of stack, ^0R

t_{std} = Standard temperature, 68^0F

T_{std} = Standard temperature, 528^0R

V_m = Volume of gas sample as measured by dry gas meter, DACF

$V_{m(std)}$ = Volume of gas sample measured by dry gas meter, corrected to standard conditions, DSCF

V_s = Average stack gas velocity, FPS

$V_{wi(std)}$ = Impinger water gain in SCF

$V_{wsg(std)}$ = Silica gel water gain in SCF

Y_m = Dry gas meter calibration factor (dimensionless)

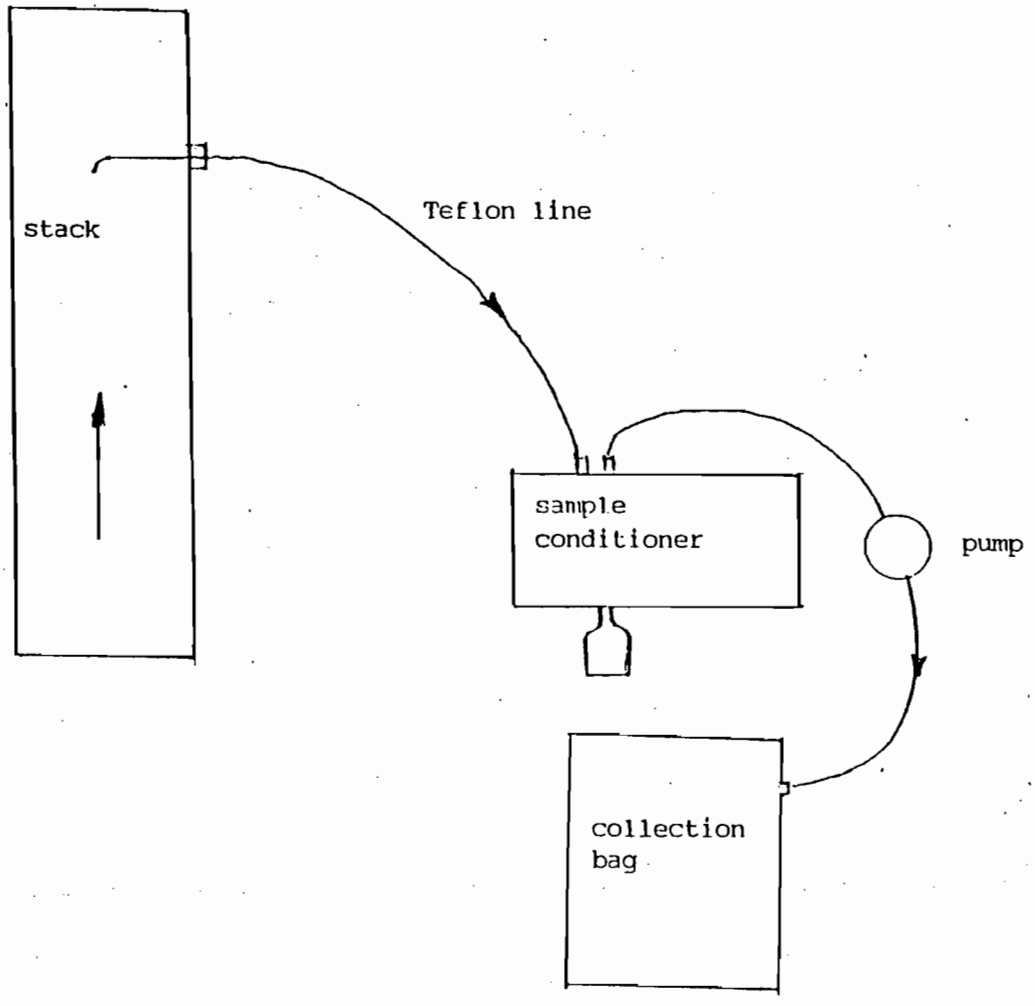
ΔH = Pressure difference of orifice, "WG

ΔP = Velocity head of stack gas, "WG

ΔH_a = Value of ΔH measured for a specific orifice when operated under the following conditions: 0.75 CFM of dry air (M.W. = 29) at 68°F, 29.92 "Hg

θ = Total sampling time, minutes

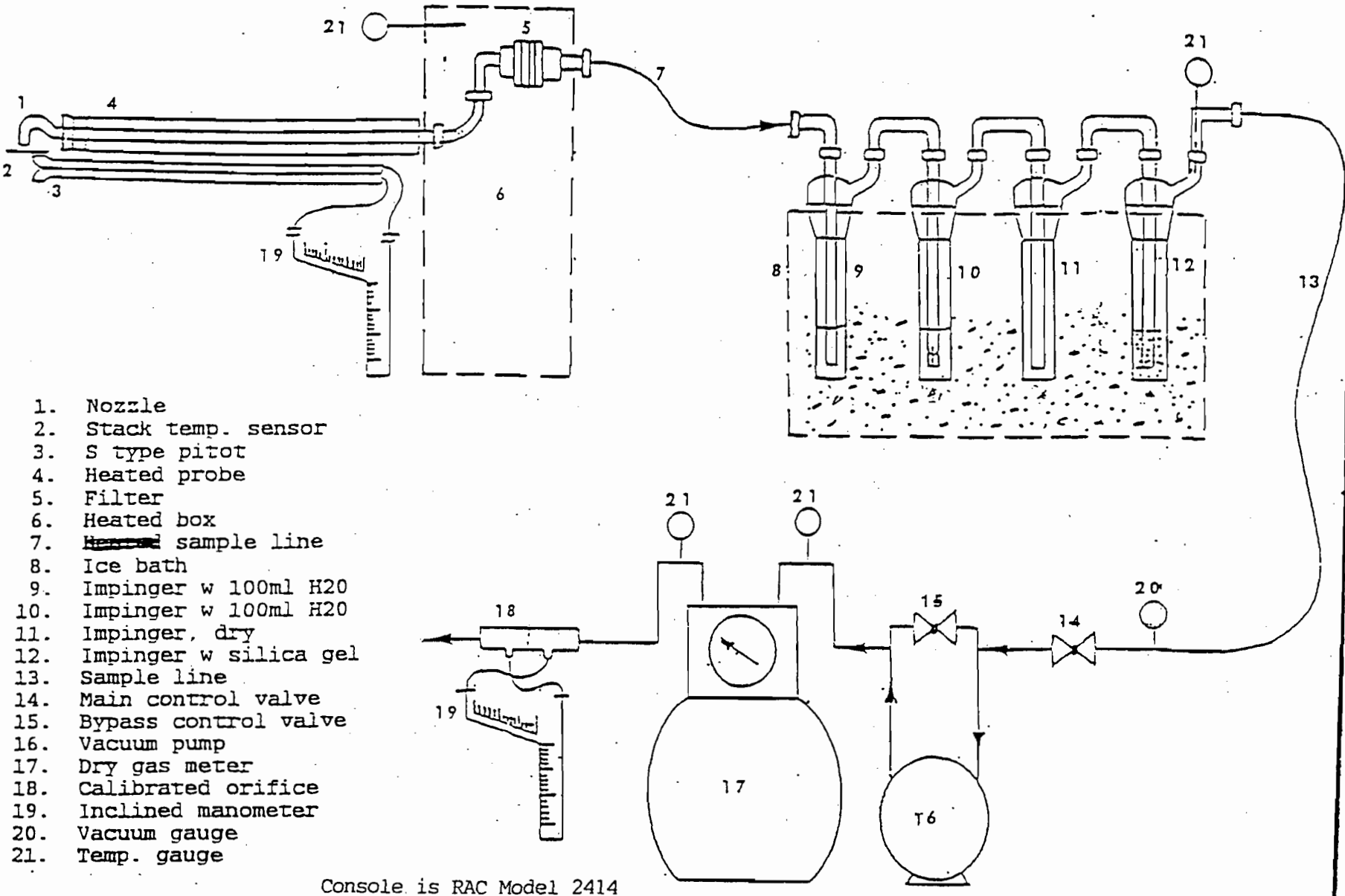
Sampling Train(s) and Sample Point Locations



Sample conditioner is Pace, Model No. VIA MAK2-2

02 Collection Train

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507



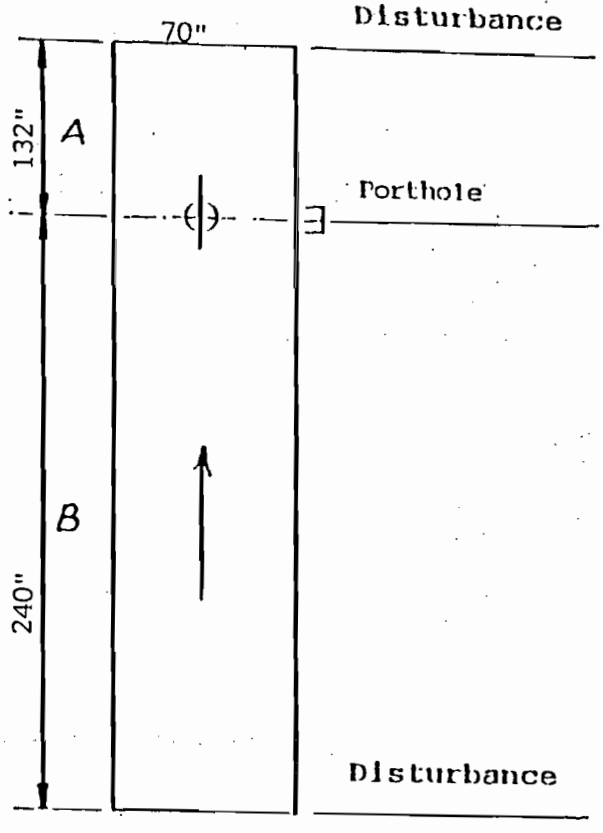
1. Nozzle
2. Stack temp. sensor
3. S type pitot
4. Heated probe
5. Filter
6. Heated box
7. ~~Heated~~ sample line
8. Ice bath
9. Impinger w 100ml H20
10. Impinger w 100ml H20
11. Impinger, dry
12. Impinger w silica gel
13. Sample line
14. Main control valve
15. Bypass control valve
16. Vacuum pump
17. Dry gas meter
18. Calibrated orifice
19. Inclined manometer
20. Vacuum gauge
21. Temp. gauge

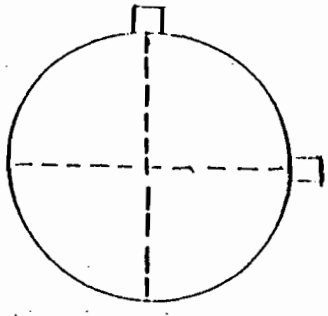
Console is RAC Model 2414

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

EPA METHOD 5, PARTICULATE SAMPLING TRAIN

Client : LFC Power Systems Corporation
Location : Madison, FL
Source : Boiler Scrubber Exhaust





Pt. No.	Distance (")
1.	1.5
2.	4.7
3.	8.3
4.	12.4
5.	17.5
6.	24.9
7.	45.1
8.	52.5
9.	57.6
10.	61,7
11.	65.3
12.	68.5

A = 132/70 = 1.9

B = 240/70 = 3.4

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

Sampling Points Locations

Equipment Calibrations

FIELD THERMOMETER

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4106

Date 10/17/94 Thermocouple number _____

Ambient temperature 72 °F Barometric pressure 30.16 in. Hg

Calibrator KCS Reference: mercury-in-glass ASTM

other _____

Reference point number	Source[a] (specify)	Reference thermometer temperature, °F	Thermocouple potentiometer temperature, °F	Temperature difference,[b] %
32°F	ICE WATER	32.4	32	0.08
212°F	BOILING WATER	203	203	0

[a] Type of calibration system used.

[b] $\left[\frac{(\text{ref temp, °F} + 460) - (\text{test thermom temp, °F} + 460)}{\text{ref temp, °F} + 460}\right] 100 \leq 1.5\%$.

$\frac{492.4 - 492}{492.4} \times 100 = 0.08\%$

TRAIN 1

METER IN (T1)

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

Date 10/17/94 Thermocouple number _____

Ambient temperature 72 °F Barometric pressure 30.16 in. Hg

Calibrator KCS Reference: mercury-in-glass ASTM

other _____

Reference point number	Source[a] (specify)	Reference thermometer temperature, °F	Thermocouple potentiometer temperature, °F	Temperature difference,[b] %
32°F	ICE WATER	32.4	32	0.08
212°F	BOILING WATER	204.4	207	0.39
Date	Ambient Temperature Pretest			
Date	Ambient Temperature Posttest			

[a] Type of calibration system used.

[b] $\left[\frac{(\text{ref temp, °F} + 460) - (\text{test thermom temp, °F} + 460)}{\text{ref temp, °F} + 460}\right] 100 \leq 1.5\%$.

$\frac{492.4 - 492}{492.4} \times 100 = 0.08\%$

$\frac{664.4 - 667}{664.4} \times 100 = 0.39\%$

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

TRAIN 1
METER OUT (T2)

Date 10/17/94 Thermocouple number _____

Ambient temperature 72 °F Barometric pressure 30.16 in. Hg

Calibrator KCS Reference: mercury-in-glass ASTM

other _____

Reference point number	Source[a] (specify)	Reference thermometer temperature, °F	Thermocouple potentiometer temperature, °F	Temperature difference,[b] %
32°F	ICE WATER	32.4	32	0.08
212°F	BOILING WATER	203.8	207	0.48
Date	Ambient Temperature Pretest			
Date	Ambient Temperature Posttest			

[a] Type of calibration system used.

[b] $\left[\frac{(\text{ref temp, °F} + 460) - (\text{test thermom temp, °F} + 460)}{\text{ref temp, °F} + 460}\right] 100 \leq 1.5\%$.

$$\frac{492.4 - 492}{492.4} \times 100 = 0.08\%$$

$$\frac{663.8 - 667}{663.8} \times 100 = 0.48\%$$

TRAIN 1
4TH IMPINGER

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

Date 10/17/94 Thermocouple number _____

Ambient temperature 72 °F Barometric pressure 30.16 in. Hg

Calibrator KCS Reference: mercury-in-glass ASTM

other _____

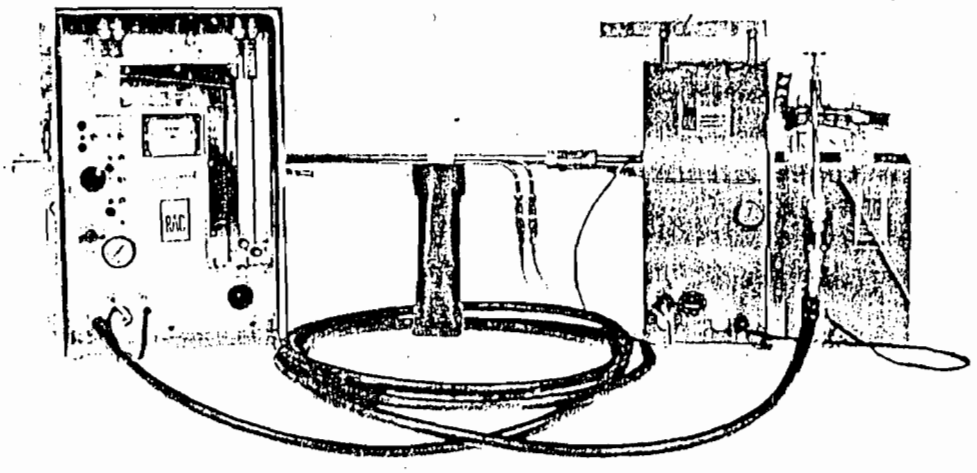
Reference point number	Source[a] (specify)	Reference thermometer temperature, °F	Thermocouple potentiometer temperature, °F	Temperature difference,[b] %
32°F	ICE WATER	32.8	33	0.04
212°F	BOILING WATER	208	203	0.75
Date	Ambient Temperature Pretest			
Date	Ambient Temperature Posttest			

[a] Type of calibration system used.

[b] $\left| \frac{(\text{ref temp, °F} + 460) - (\text{test thermom temp, °F} + 460)}{\text{ref temp, °F} + 460} \right| 100 \leq 1.5\%$.

$$\frac{492.8 - 493}{492.8} \times 100 = 0.04\ \%$$

$$\frac{668 - 663}{668} \times 100 = 0.75\ \%$$



model 2414

Reliable Accurate Control

BULLETIN 2343-R3

modular, portable RAC STAKSAMPLR™

this versatile, efficient, field-proven system takes isokinetic samples of process & combustion effluents to EPA sampling standards

• features

- Designed & manufactured to EPA specifications (Federal Register) for sampling the emissions from stationary sources
- First stack sampling system made specifically to EPA design (1969)
- Modular sample case features separate, interchangeable impinger (ice bath) compartment and lightweight aluminum construction
- With glassware installed, complete 2-module sampling case weighs only 32 lbs; detached impinger module weighs only 14 lbs w/glassware
- A series of stack samples can be taken with one set-up (and with minimum downtime) by using several impinger modules equipped with different, preassembled trains
- ASTM & Power Test Code approved
- Ready-to-use, fully portable system
- Easy to install & operate
- Control unit can be located up to 300' from sample collecting unit
- Stainless steel pitobe assembly permits one-point sampling & flow measurements
- Pyrometer unit (optional, P/N 9927-26) takes concurrent stack temperature readings
- Variety of pitobe designs & probe tip sizes available
- Interchangeable 2.5", 3" & 4" dia particulate filters
- Ball-joint connections on glassware assure flexible vacuum-tight assembly, minimize the breakage experienced with solid connections
- Design of glassware connections prevents particle buildup at fitting inlets (if misaligned) & hang-ups if stopcock grease is used
- Nomograph is available to permit fast, accurate, on-site calculations
- Monorail suspension-guidance system for sample case & pitobe is easy to assemble, provides secure mounting & smooth traverse during sampling
- Integrated umbilical cord available in lengths of 25', 50', 75', 100', 200' and 300'
- Optional accessories enhance system's inherent capabilities & versatility

• application

The RAC Staksamplr System takes accurate, low cost, isokinetic samples of the effluents (particulates, gases, vapors or mists) in the emissions from chemical and combustion processes. This efficient, flexible system samples all gas stream effluents in accordance with **Environmental Protection Agency (EPA) standards**, as specified in the **Federal Register.** Introduced in 1969, the RAC Staksamplr was the *first* system made to the *EPA design* for stationary source sampling apparatus.

Today, the RAC Staksamplr is the most widely used — and most widely copied — system of its type. With hundreds of units now in use around the world, Research Appliance Company has the most extensive in-the-field operating experience of any manufacturer of this kind of equipment. RAC's expertise is reflected in progressive modifications and improvements to the basic design. It also has produced a wide range of accessories that have been developed or adapted to meet specialized stack sampling requirements.

Designed to operate with its sampling probe in a horizontal or vertical position, the versatile RAC Staksamplr can be used in round or rectangular stacks and ducts with flow velocities from 400 to 10,000 fpm and temperatures to approximately 2000°F. (NOTE: If flows below 400 fpm are encountered, measurements can be made by an accessory micromanometer (P/N 994084) that measures velocities down to approx. 65 fpm.)

The RAC Staksamplr collects samples of water vapor (Method 4), particulates (Methods 5 & 17), sulfur dioxide gas (Method 6), sulfuric acid mist, including sulfur trioxide (Method 8), inorganic lead (Method 12), fluorides (Methods 13A & B), mercury (Methods 101 & 102) and beryllium (Methods 103 & 104) all in accordance with EPA Methods as published in the Federal Register.

Engineered for ease of installation and operation, this advanced RAC system meets all accepted standards for stack sampling operations.

PENSACOLA P.O.C. INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

ISOKINETIC METERBOX CALIBRATION

Console No. 1 Date 11-10-94 Calibrated by BLB

Barometric Pressure (P_b) 29.94 Console Vacuum _____ "Hg

Standard Meter: Equimeter R275, 2656264 Std. Meter Coefficient (Y_{ds}) 0.9994

Leak Check 13.5 "WG 60 seconds Meter In 706.350 Meter Out 706.357

Min. Vol. cf	Time θ min.		Std. Meter Gas Vol. V_{ds} cf	Std. Meter Temp. t_{ds} F	Metering Console Orifice Setting ΔH "WG	Metering Console Gas Vol. V_d cf	Metering Console Temp. t_{di} F	Metering Console Temp. t_{do} F	Coef Y_{di}	ΔH@ "WG
5.0	12 19/60	Start	102.2	78	0.5	738.211	78	77	1.023	1.720
		Stop	107.2	78		743.119	93	78		
5.0	8 53/60	Start	112.9	77	1.0	748.209	104	82	1.017	1.734
		Stop	117.9	77		753.285	114	85		
5.0	7 17/60	Start	119.6	77	1.5	754.440	111	87	1.023	1.730
		Stop	124.6	77		759.535	121	89		
10.0	12 48/60	Start	125.5	77	2.0	760.087	120	90	1.023	1.757
		Stop	135.5	76		770.393	132	95		
10.0	10 26/60	Start	137.7	76	3.0	771.534	127	96	1.021	1.733
		Stop	147.7	76		781.935	132	99		
10.0	8 59/60	Start	149.2	76	4.0	782.847	127	100	1.010	1.707
		Stop	159.2	76		793.365	133	102		
								Average	Y_d 1.020	ΔH@ 1.730

1.000 - 1.040

Measurement Controls, Inc.

Gas Meter Remanufacturing and Sales

11-2-94

PENSACOLA P.O.C., INC.
REFERENCE CALIBRATION- EQUIMETER S-275 # 2656264

Pb= 30.14" T= 69 F.

$$Y = \frac{Vs \times Ys\ (460+T)\ Pb}{Vt\ (\frac{dH}{13.6} + Pb)(460+T)}$$

FLOW RATE	dH	ORIFICE	VOLUME	Y	AVE. Y
114 CFH	.60"	3/8"	1.9985	.9993	
			1.9985	.9993	
			1.9975	.9998	.9995
75 CFH	.30"	3/8"	2.0000	.9993	
			1.9995	.9995	
			1.9995	.9995	.9994
50 CFH	2.80"	1/8"	1.9880	.9992	
			1.9875	.9995	
			1.9880	.9992	.9993
43 CFH	2.00"	1/8"	1.9920	.9991	
			1.9920	.9991	
			1.9910	.9996	.9993
34 CFH	1.45"	1/8"	1.9945	.9992	
			1.9940	.9995	
			1.9940	.9995	.9994

Overall Average Y= .9994

Calibration performed on American Bell Prover # 2989; Certification Dated 2-24-92, Certified to 0.00% Error and traceable to the N.I.S.T.

By Measurement Controls, Inc,

Larry B. Lane, President

102 S. Main Street • P.O. Box 997 • Huntersville, NC 28078 • (704) 875-2034

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

$$Y_{di} = (Y_{ds})(V_{ds})\ (t_d + 460)(P_b) \ /\ (V_d)\ (t_{ds} + 460)\ (P_b + (\Delta H/13.6))$$

Delta H of 0.5

Y_{di} = (0.9994)(5.000)(541.5)(29.94) / (4.908)(538)(29.98) = 1.023

Delta H of 1.0

Y_{di} = (0.9994)(5,000)(556)(29.94) / (5.076)(537)(30.01) = 1.017

Delta H of 1.5

Y_{di} = (0.9994)(5.000)(562)(29.94) / (5.095)(537)(30.05) = 1.023

Delta H of 2.0

Y_{di} = (0.9994)(10.000)(569)(29.94) / (10.306)(536.5)(30.09) = 1.023

Delta H of 3.0

Y_{di} = (0.9994)(10.000)(573.5)(29.94) / (10.401)(536)(30.16) = 1.021

Delta H of 4.0

Y_{di} = (0.9994)(10.000)(575.5)(29.94) / (10.518)(536)(30.23) = 1.010

$$H@_i = [(0.0317)\ (\Delta H)/\ (P_j)\ (t_d + 460)]\ [(t_{ds} + 460)\ (\theta)/(Y_{ds})(V_{ds})]^{\frac{1}{2}}$$

Delta H of 0.5

$\Delta H@_i$ = [(0.0317 * 0.5)/ (29.94)(541.5)][(538)(12.32) / (0.9994)(5.000)]$^{\frac{1}{2}}$ = 1.720

Delta H of 1.0

$\Delta H@_i$ = [(0.0317 * 1.0)/ (2994)(556)][(537)(8.88) / (0.9994)(5.000)]$^{\frac{1}{2}}$ = 1.734

Delta H of 1.5

$\Delta H@_i$ = [(0.0317 * 1.5)/ (2994)(562)][(537)(7.28) / (0.9994)(5.000)]$^{\frac{1}{2}}$ = 1.732

Delta H of 2.0

$\Delta H@_i$ = [(0.0317 * 2.0)/ (29.94)(569)][(536.5)(12.80) / (0.9994)(10.000)]$^{\frac{1}{2}}$ = 1.757

Delta H of 3.0

$\Delta H@_i$ = [(0.0317 * 3.0)/ (29.94)(573.5)][(536)(10.43) / (0.9994)(10.00)]$^{\frac{1}{2}}$ = 1.733

Delta H of 4.0

$\Delta H@_i$ = [(0.0317 * 4.0)/ (29.94)(575.5)][(536)(8.98) / (0.9994)(10.000)]$^{\frac{1}{2}}$ = 1.707

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4106

Nomenclature

ΔH = Pressure differential across orifice, inches H_2O

$\Delta H@$ = Average orifice pressure differential that gives 0.75 CFM of air at standard conditions for all six runs, inches H_2O.

Tolerance = 1.84 +/- 0.25 (recommended)

$\Delta H@_i$ = Orifice pressure differential that gives 0.75 CF/min of air at standard conditions for each calibration run, inches H_2O

Tolerance $\Delta H@_i = \Delta H@ +/- 0.20$

θ = Time for each calibration run, minutes

P_b = Barometric Pressure, inches Hg.

t_d = Average temperature of gas in console test meter, obtained by the average t_{di} and t_d, ^0F.

t_{di} = Temperature of inlet gas of console test meter, ^0F.

t_{do} = Temperature of outlet gas of console test meter, ^0F.

t_{ds} = Temperature of gas in certified test meter, ^0F.

V_d = Gas volume passing through metering console, ft^3.

V_{ds} = Gas volume passing through certified test meter, ft^3.

Y_d = Average coefficient of metering console.

Y_{di} = Coefficient of metering console for individual runs.

Tolerance $Y_{di} = Y_d +/- 0.02$

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

7' PROBE

TYPE S PITOT TUBE INSPECTION DATA FORM

Pitot tube assembly level? ✓ yes _____ no

Pitot tube openings damaged? _____ yes (explain below) ✓ no

α_1 = 1.5 ° (<10°), α_2 = 1.0 ° (<10°), β_1 = 2.0 ° (<5°),
β_2 = 0 ° (<5°)

γ = 2.0 °, θ = 1.0 °, A = 2.80 cm (~~in.~~)

z = A sin γ = 0.10 cm (~~in.~~); <0.32 cm (<~~1/8 in.~~),
w = A sin θ = 0.05 cm (~~in.~~); <.08 cm (<~~1/32 in.~~)

P_A 1.40 cm (~~in.~~) P_b 1.40 cm (~~in.~~)

D_t = 0.95 cm (~~in.~~) A = 1.40 + 1.40 = 2.80

Comments: _____

_____

_____

Calibration required? _____ yes ✓ no

10/14/94 KCS

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109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4106

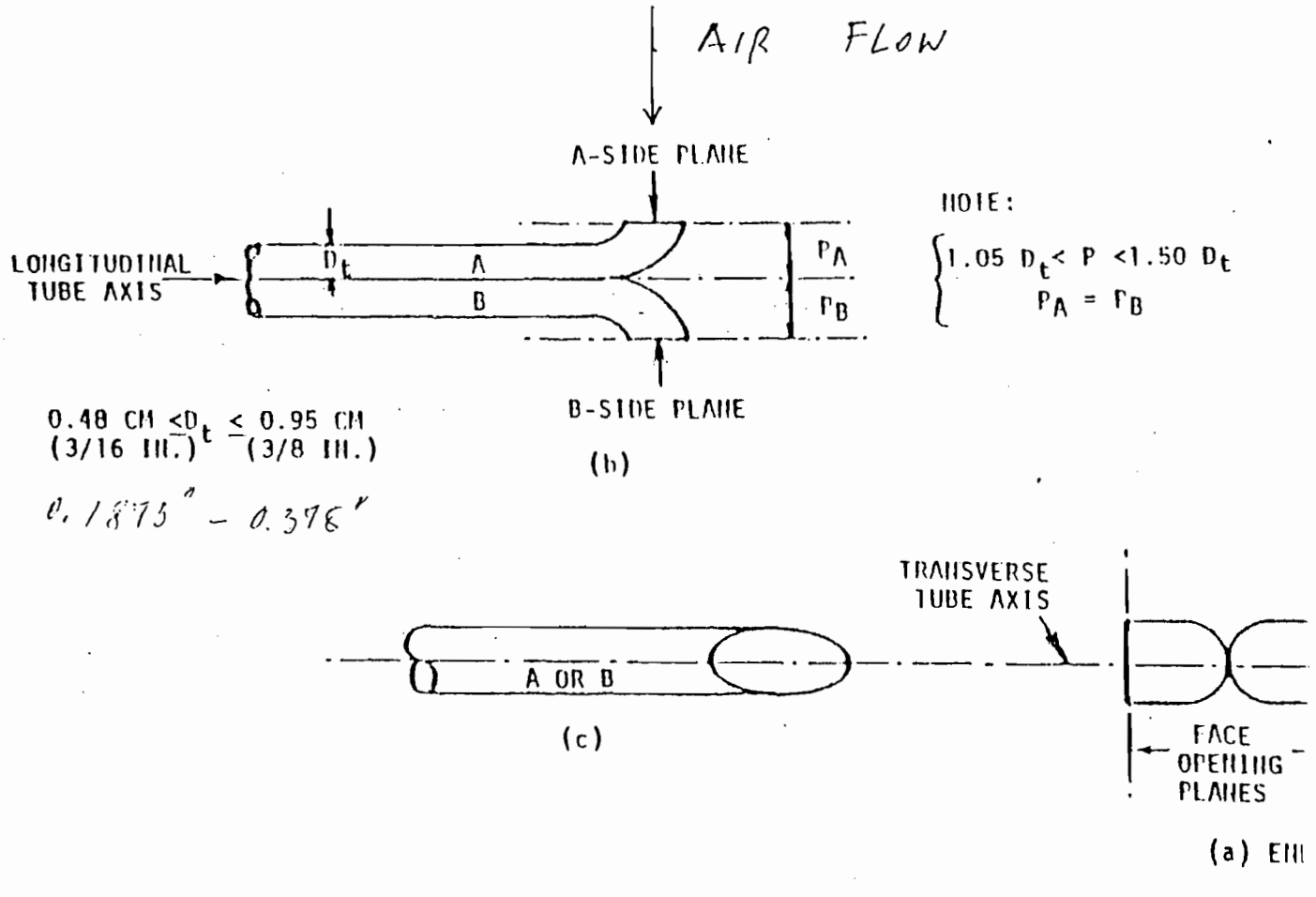

Figure 1.3. Properly constructed Type S pitot tube, shown (a) end view; face opening planes perpendicular to transve axis; (b) top view; face opening planes parallel to longitudi axis; (c) side view; both legs of equal length and centerli coincident, when viewed from both sides. Baseline coeffici values of 0.84 may be assigned to pitot tubes constructed t way.

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109 SOUTH SECOND ST.
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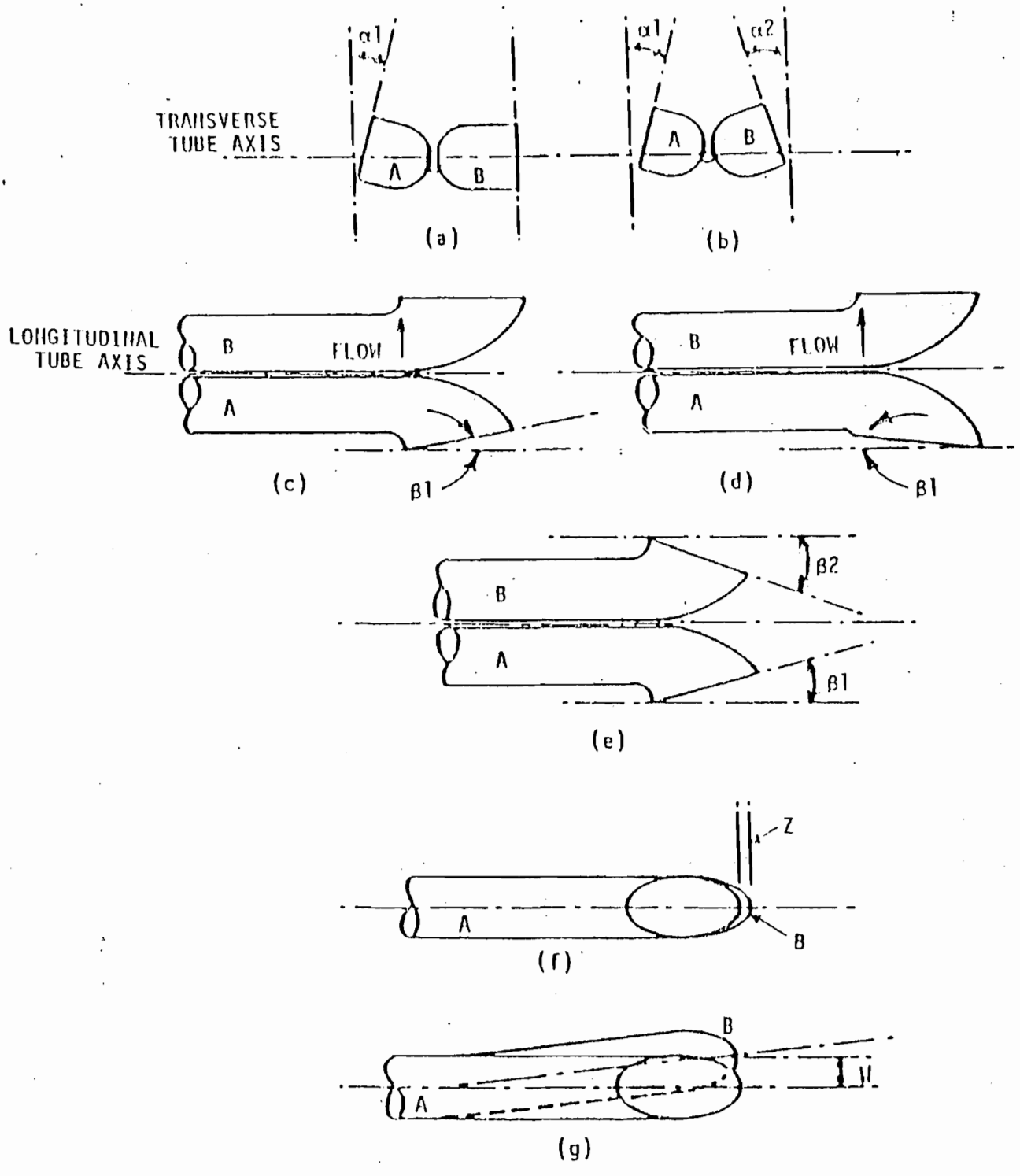
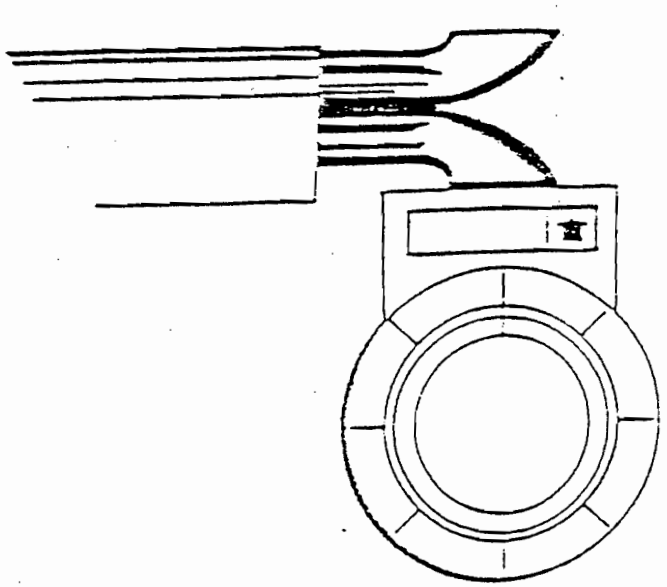
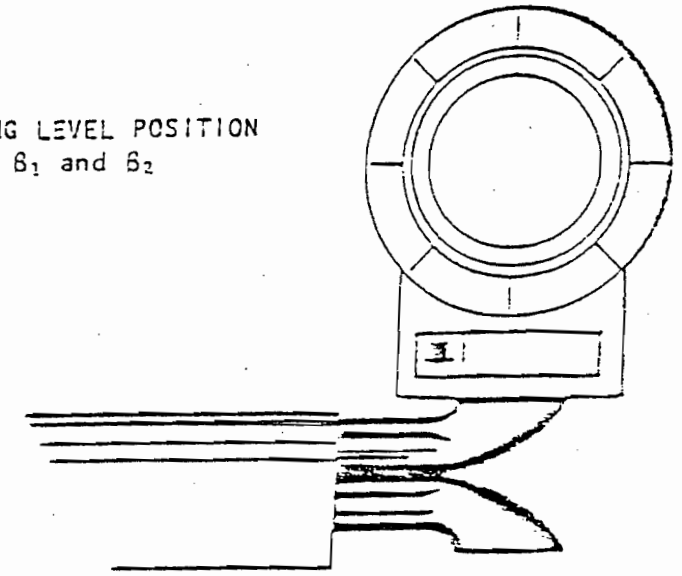
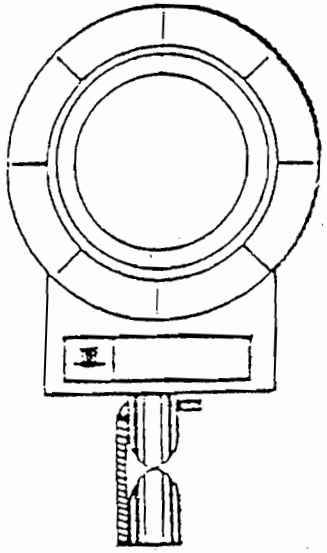


Figure 1.4. Types of face-opening misalignment that can result from field use or improper construction of Type S pitot tubes. These will not affect Cp so long as α_1 and α_2 <10°, β_2 <5°, z <0.32 cm (1/8 in.) and w<0.08 cm (1/32 in.).



DEGREE INDICATING LEVEL POSITION FOR DETERMINING β_1 and β_2





DEGREE INDICATING LEVEL POSITION FOR DETERMINING α_1 and α_2

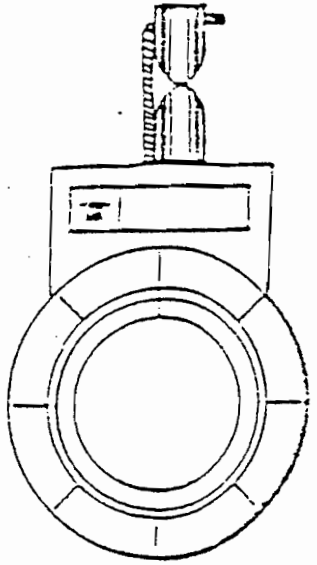
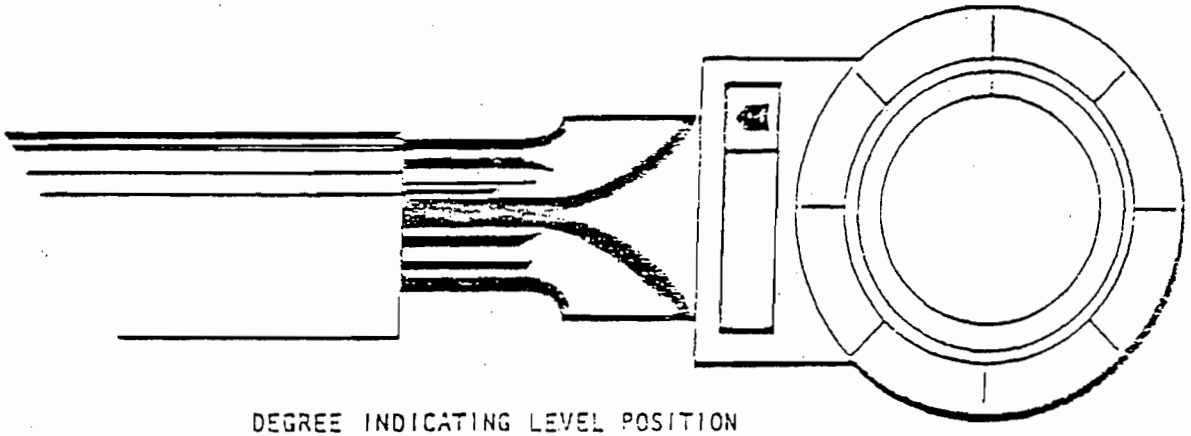
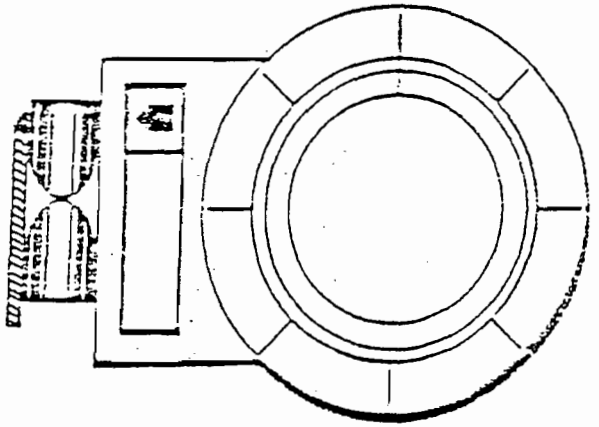


Figure 1.6 Position of dimension measurement. (continued)



DEGREE INDICATING LEVEL POSITION
FOR DETERMINING γ, THEN CALCULATING Z



DEGREE INDICATING LEVEL
POSITION FOR DETERMINING
θ, THEN CALCULATING W

Figure 1.6 (continued)

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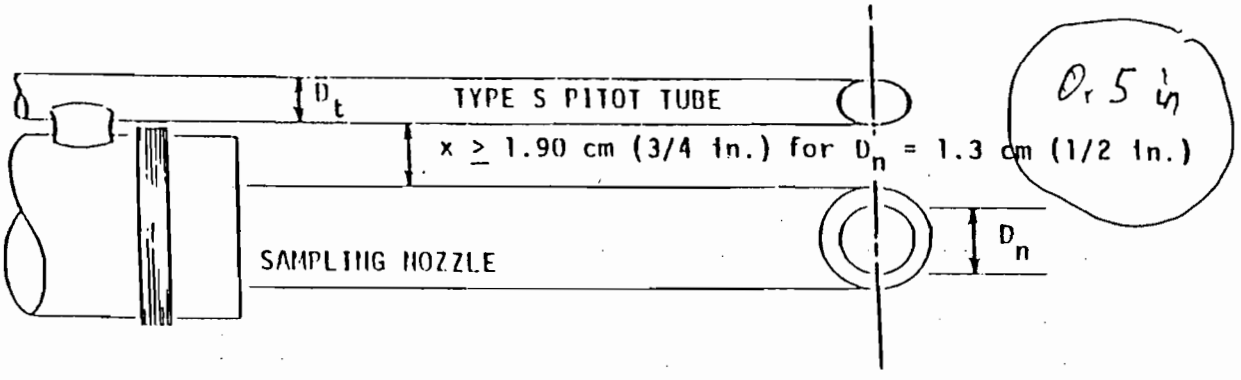
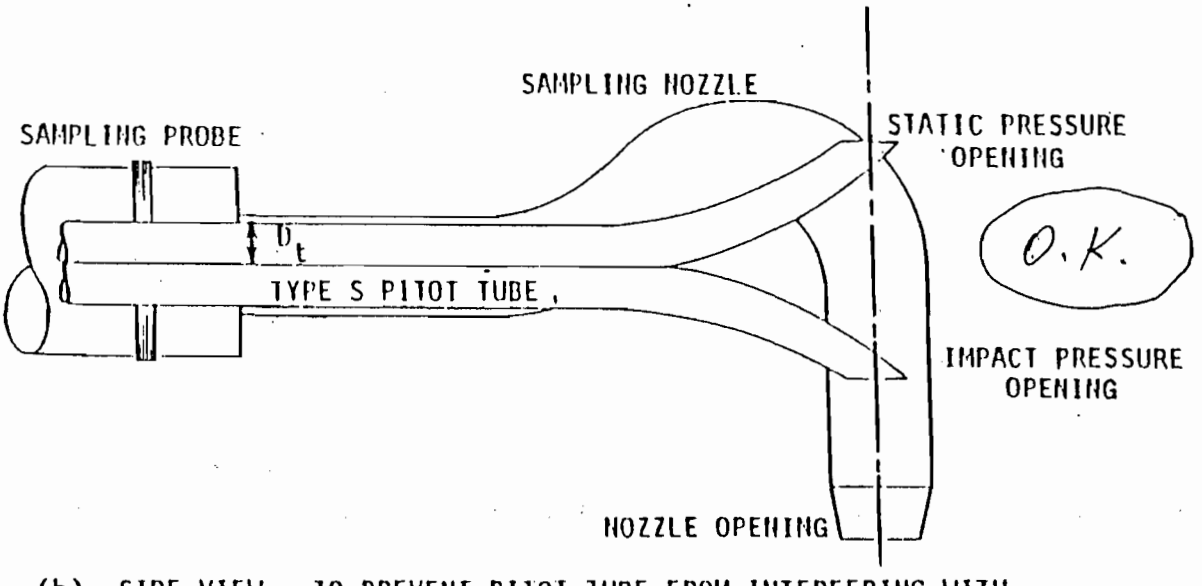
PENSACOLA, FL 32507
(904) 456-4106



(a) BOTTOM VIEW: SHOWING MINIMUM PITOT-NOZZLE SEPARATION.



(b) SIDE VIEW: TO PREVENT PITOT TUBE FROM INTERFERING WITH GAS FLOW STREAMLINES APPROACHING THE NOZZLE, THE IMPACT PRESSURE OPENING PLANE OF THE PITOT TUBE SHALL BE EVEN WITH OR DOWNSTREAM FROM THE NOZZLE ENTRY PLANE

Figure 2.1 Required pitot tube-sampling nozzle configuration to prevent aerodynamic interference; buttonhook-type nozzle; centers of nozzle and pitot opening aligned; in respect to flow direction, D_t between 0.48 and 0.95 cm (3/16 and 3/8 in.).

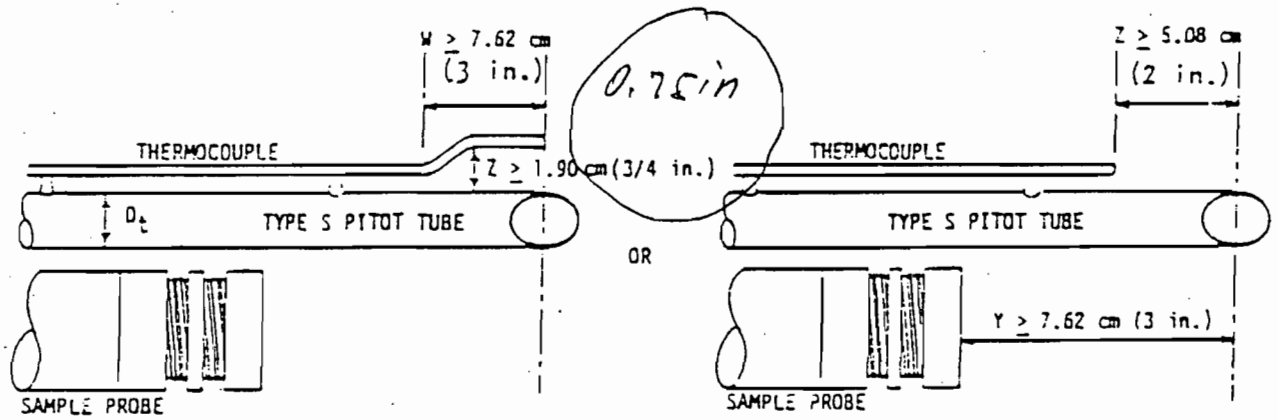


Figure 2.2 Required thermocouple and probe placement to prevent interference: D_t between 0.48 and 0.95 cm (3/16 and 3/8 in.).

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507,
(904) 456-4406

LFC POWER SYSTEMS CORPORATION

November 29, 1994

Mr. Johnny Cole
Northeast District
Florida Dept. of Environmental Protection
7825 Baymeadows Way, Suite 200
Jacksonville, Fl 32256-7500

RE: RE-START OF THE LFC NO. 47 CORP. FACILITY NEAR MADISON, FL
PERMIT # AC 40-248258
SOURCE ID # 31GVL40001101

Dear Mr. Cole:

As we discussed on the phone today, on behalf of LFC No. 47 Corp., this letter provides written notification that we intend to restart the subject facility on or about December 26, 1994.

Should you have any questions regarding this operation, please call Quincy Cochran at (904) 973-3180 or (904) 997-0515, or me at (503) 697-2360.

Sincerely,

Myron Burr
Compliance Manager

MWB443.Let:jsm

cc: D. Brown
Q. Cochran (via Fax)
W. Cooper (via Fax)

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

Madison Co. - AP
LFC
carb blr (power plant)

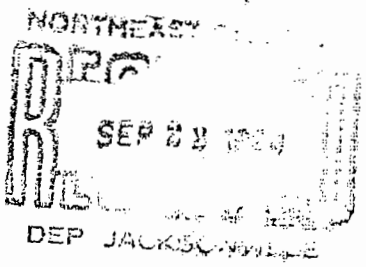
10-14-94 - 1:40

Ted S. called to let us know that they are doing work for the "zero discharge" requirements.

LFC POWER SYSTEMS CORPORATION

September 19, 1994 **FEDERAL EXPRESS**

Florida Department of Environmental Protection
Northeast District - Air Section
Suite B200
7825 Bay Meadows Way
Jacksonville, Florida 32256-7590



Attention: Mr. Robert J. Leetch, P.E.
District Air Program

Subject: Permittee: LFC No. 47 Corporation
Source Location: CR-591 Madison, Florida
I.D. Number: 31 GVL 40001101
Permit Number: AC40-248258
A 90 day REQUEST FOR EXTENSION
(from the current Dec. 31, 1994 Expiration Date)

Dear Mr. Leetch:

In accordance with the directions contained in your letter to T. K. Sieckman of September 2, 1994, the following is submitted as a Request for a 90 day Extension of Permit Number AC40-248258:

1. The plant will be back on line approximately the beginning of December 1994 (an official 30 day notice will be issued).
2. After start-up, an air test will be performed within 45 days. The results will be submitted.
3. Enclosed is a check for $50., the required extension fee.
4. Another Certificate of Completion of Construction will be issued after the air test has been completed.

All the required information will be submitted in triplicate and will be certified by the professional engineer named in the application. If further information is required, please call me at 503-697-1737 or Ted Sieckman at 503-697-0262.

Sincerely,

David J. Brown
Director of Biomass Operations

c:\FLORIDA2
CC: T. Sieckman
B. Zegel
J. Cole, Florida DEP
Bill Beeson
M. Burr

LFC POWER SYSTEMS CORPORATION ..ilding One, Suite 255 * 4000 Kruse Way Plac Lake Oswego, OR 97035 **No. 60851**

DATE	INVOICE NO.	DESCRIPTION	AMOUNT	DISCOUNT	NET
09/15/94	CKRQ091594	ID#31GVL40001101	$ 50.00		$ 50.00

CHECK: 60851 09/16/94 FLORIDA DEPT OF ENVIRONMENTAL FLOR076 **CHECK TOTAL** $ 50.00

LFC POWER SYSTEMS CORPORATION
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035

PNC National Bank
Wilmington, DE 19899

62-15/311

No. 60851

VOID VOID

CHECK DATE	CHECK AMOUNT
09/16/94	$50.00

PAY *Fifty & no/100 Dollars*

LFC POWER SYSTEMS CORPORATION
Mary B. Bell

TO THE ORDER OF

FLORIDA DEPT OF ENVIRONMENTAL
PROTECTION, NE DISTRICT
7825 BAY MEADOWS WAY, STE B200
JACKSONVILLE, FL 32256-7577

VOID VOID

[redacted]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

236030

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from LFC POWER SYSTEMS CORPORATION Date 9/22/94
BUILDING ONE, SUITE 255
Address 4000 KRUSE WAY PL LAKE OSWEGO OR 97035 Dollars $ 50.00

Applicant Name & Address SAME, LFC NO. 47 CORPORATION

Source of Revenue CARB BOILER

Revenue Code 002222 CK 60851 Application Number AC40-257998

By Brenda Deavers

I faxed the attached on 9-13-94

Post-It™ brand fax transmittal memo 7671	# of pages ▸ 4
To JEFF MELING	From RITA FELTON
Co. ECT	Co. FL DED
Dept. GAINESVILLE	Phone # 904/448-4310
Fax # 904/332-6722	Fax # 904/448-4366

MR. MELING -

THESE ARE THE PAGES OF THE LFC PERMIT YOU REQUESTED ON 9-12-94.

IT APPEARS THAT THE FACILITY WAS ISSUED THIS PERMIT FOR MODIFICATIONS TO THE EXISTING PLANT, I.E., INCREASE HOURS OF OPERATION AND FUEL INPUT RATE.

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT JOHNNY COLE AT 904/448-4310 EXTENSION 236. HE WILL BE AVAILABLE ON 9-14-94. HE WAS THE PERMIT PROCESSING ENGINEER FOR THIS PROJECT.

I HOPE THIS INFORMATION WAS HELPFUL.

RITA FELTON

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Virginia B. Wetherell
Secretary

PERMITTEE:

LFC No. 47 Corporation
4000 Kruse Way Place, Bldg. One
Lake Oswego, Oregon 97035

I.D. Number:	31GVL40001101
Permit/Cert Number:	AC40-248258
Date of Issue:	June 10, 1994
Expiration Date:	December 31, 1994
County:	Madison
Latitude/Longitude:	30°30'00"N; 83°23'45"W
UTM:	E-(17)270.1; N-3376.5
Project:	Boiler (Carbonaceous fuel fired)

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes (FS), and Florida Administrative Code (FAC) Rule(s) 17-210, 17-212, 17-272, 17-296, 17-297 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of the carbonaceous fuel-fired boiler by increasing the hours of operation from 8,064 to 8,400 hours per year, and increasing the fuel input rate from 136.18 to 185 MMBTU per hour. Particulate matter (PM) emissions are controlled by a multiclone and a venturi scrubber in series.

Located on CR 591, 1.5 miles north of Madison, Madison County, Florida.

In accordance with:

Construction permit application dated 09-16-83
Certificate of Completion of Construction form dated 06-19-85
Modification application received 04-01-94
Draft CP comments received 05-09-94

EE:
No. 47 Corporation
0000 Kruse Way Place, Bldg. One
Lake Oswego, Oregon 97035

I.D. Number: 31GVL40001101
Permit/Cert Number: AC40-248258
Date of Issue: June 10, 1994
Expiration Date: December 31, 1994

SPECIFIC CONDITIONS:

1. The ID No. and Project Name for this source shall be used on all correspondence.

2. The construction of this installation shall be completed by 06-30-94 and the operation permit application is to be submitted by 09-30-94.

3. The maximum input rate (operating rate) is BELOW and shall not be exceeded without prior approval.

RATE	MATERIAL
185 MMBTU/hr[1]	Carbonaceous Fuels[2]

[1]Basis: 4500 BTU/lb; 41,111 lbs/hr
[2]Consist of wood, bark, paper, waste wood

4. Testing of emissions must be performed at an operating rate of at least 90% of the rate in Specific Condition (SC) No. 3, or SC No. 5 will become effective.

5. The operating rate shall not exceed 110% of the rate during the most recently accepted test, except for additional testing purposes, and shall not exceed the rate in SC No. 3. After testing at a higher rate, the operating rate shall continue to not exceed the aforementioned rate until the test report at the higher rate is reviewed and accepted by the Department.

6. The permitted maximum allowable emission rate for each pollutant is as follows:

POLLUTANT	EMISSIONS LIMIT			FAC RULE
	BELOW	LBS/HR	TPY	
PM [1]		35[2]	147[3]	----
VE [4]	30% opacity[5]			17-296.410(2)(b)1.

[1]PM - particulate matter
[2]Basis: applicant requested limit of 0.189 lb per MMBTU; 185 MMBTU/hr
[3]Operation hours shall be limited to 24 H/D, 7 D/W, 50 W/Y and shall be recorded.
[4]VE - visible emissions
[5]except 40% for 2 mins/hr.

7. Unconfined particulate matter emissions shall be controlled by application of dust suppressants, unless an alternative method is requested and approved, to all areas necessary to reasonably control such emissions per FAC Rule 17-296.310(3).

PERMITTEE:
No. 47 Corporation
000 Kruse Way Place, Bldg. One
Lake Oswego, Oregon 97035

I.D. Number: 31GVL40001101
Permit/Cert Number: AC40-248258
Date of Issue: June 10, 1994
Expiration Date: December 31, 1994

SPECIFIC CONDITIONS:

8. Test the emissions for the following pollutant(s) within 45 days after startup, notify the Department 15 days prior to testing [FAC Rule 297.340(1)(i)], and submit the test report documentation to the Department with the operation permit application within 45 days after completion of the testing [FAC Rule 297.570(2]:

POLLUTANT	TEST METHOD(s)
PM[1]	EPA 5
VE	EPA 9

[1]Compliance and test heat input rate based on test data and 9280 DSCF/MMBTU or the actual F_d determined from acceptable data collected during the test period.

Tests and test reports shall comply with the requirements of FAC Rules 17-297.330 and 17-297.570, respectively.

9. In each test report, submit the maximum input/production rate at which this source was operated since the most recent test.

10. Submit an annual operation report for this source on the form supplied by the Department for each calendar year on or before March 1.

11. Any revision(s) to a permit (and application) must be submitted and approved prior to implementing.

12. A completed Certificate of Completion of Construction form with the compliance report is due 90 days prior to 12-31-94.

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to S120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.
Clerk — Date 6/13/94

Ernest E. Frey, P.E.
Director of District Management

Department of Environmental Protection

Lawton Chiles
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

Virginia B. Wetherell
Secretary

CERTIFIED - RETURN RECEIPT

September 2, 1994

Mr. T.K. Sieckman, Manager
Development and Operations
LFC No. 47 Corporation
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, Oregon 97035

Dear Mr. Sieckman:

Madison County - AP
LFC No. 47 Corp.

ID #	Project	Application No.
31GVL40001101	Carb. Boiler	255641

In accordance with Section 62-4.055(1), Florida Administrative Code (FAC), and Chapter 120, Florida Statutes, (F.S.), the Department has reviewed the subject application and has determined that the following information is needed before the application can be further processed:

1. Confirm when the plant will be brought back on line per your 8/25 telecon.
2. Submit an acceptable test report as required in CP# AC40-248258.
3. Request an extension of CP# AC40-248258 and include the $50.00 fee.
4. Another Certificate of Completion of Construction with all applicable data fields completed.

The subject application can not be processed until the above requested information is provided or corrected and will be held in abeyance until 09-30-94.

All information requested must be submitted by the applicant or authorized representative and certified by the professional engineer named in the application. Three copies of the requested information must be submitted.

If you have any questions concerning this matter, please contact Johnny Cole at (904) 448-4310, Ext. 236.

Sincerely,

Robert J. Leetch, P.E.
District Air Program

RJL:JC

cc: William C. Zegel, P.E.

LFC - AP
Carb. Boiler

09-02-94
OP expires 07-24-95
mod CP expires 12-31-94
Send RAI
1. When will startup after mod CP
2. Acceptable test rpt
3. CP rpt w/ $50
4. ~~Acceptable~~ a C of C of C with all data filled in.

8/25 ~ ~~1000~~ 01:08
Ted Sieckman
LFC
asked status
I said probably
send RAI for
test rpt,
Test early 95

LFC POWER SYSTEMS CORPORATION

Air file

NORTHEAST DISTRICT
RECEIVED
AUG 8 1994
DEP-JACKSONVILLE

August 2, 1994

Florida Department of
Environmental Protection
Northeast District - Air Section
Suite B200
7825 Bay Meadows Way
Jacksonville, Florida 32256-7590

ATTENTION: **Mr. Robert J. Leetch, P.E.**
District Air Program Administrator

SUBJECT: **PERMITTEE: LFC NO. 47 CORPORATION**
SOURCE LOCATION: CR-591 MADISON, FLORIDA
I.D. NUMBER: 31 GVL 40001101
PERMIT NUMBER: AC40-248258
APPLICATION FOR PERMIT TO OPERATE

Dear Mr. Leetch:

As required in your letter of June 28, 1994 to Mr. David Brown, I have enclosed two signed copies of the document entitled "Certificate of Completion of Construction," which was included in your letter. As I understand from Johnny Cole, this certificate will serve as an application form for a permit to operate.

If further information is needed for the permit to operate, please contact me at 503-697-0262, or David Brown, Director of Biomass Operations, at 503-697-1736.

Sincerely,

T. K. Sieckman

T. K. Sieckman
Manager - Development and Operations Administration

TKS421.Let:jsm
Attachment

cc: D. Brown
B. Zegel
M. Burr
J. Cole, Florida Dept. of Environmental Protection

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

NORTHEAST DISTRICT
RECEIVED
AUG 8 1994
DEP-JACKSONVILLE

file

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

ID No. 31 GVL 40001101

PERMIT NO. AC 40-248258 DATE: June 10, 1994

Company Name: LFC No. 47 Corporation County: Madison, Florida

Source Identification(s): CR-591

Actual costs of serving pollution control purpose: $ No change from previously issued permit A040-179441

Operating Rates: 185 MMBtu/hr. Design Capacity: 185 MMBtu/hr,

Expected Normal 185 MMBtu/hr. During Compliance Test * * *

Date of Compliance Test: * * * (Attach detailed test report)

Test Results:	Pollutant	Actual Discharge	Allowed Discharge
* * *			

Date plant placed in operation: * * *

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. AC 40-248258 dated June 10, 1994.

A. Applicant:

David J. Brown
Name of Person Signing (Type)

Director of Operations
Signature of Owner or Authorized Representative and Title

Date: 7/27/94 Telephone: (503) 697-1736

B. Professional Engineer:

WILLIAM C. ZEGEL
Name of Person Signing (Type)

Signature of Professional Engineer

WATER & AIR RESEARCH, INC.
Company Name

Florida Registration No. 23465

Date: 7/29/94

(Seal)

6821 SW ARCHER RD. GAINESVILLE, FL 32608
Mailing Address

(904) 372-4500
Telephone Number

*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.

*** This plant has been operating under permit AO-179441. Even though there is no new construction for the new permit AC 40-248258, Florida DEP is using the "construction permit procedure" due to a requested increase in emissions. When the plant is brought back on line, an emission test will be performed within 45 days as required by the new permit.

Madison Co. - A
LFC
wood boiler

NED-JAX AIR
APPLICATION PROCESSING
07-19-94

1. When Received
   - X. Per AK on 11/2/90, if minor at major, notify P. Adams. Then process, unless told to send to CAPS.
   - X. If biohaz waste incinerator or soil decon send "Notice of Permit Application" to:
     a. Chair of Board of County Commissioners
     b. Highest elected City Official
     c. Each State Senator
     d. State Representative
   - 3. Type Code and Subcode
     - a. Fee Amount T-V
     - X. Refund - send form to (see BT notes)
   - X. If boiler < 250 MMBtu/Hr; Must conduct a BACT Determination
   - X. If major, new or mod, determine if need to send to CAPS

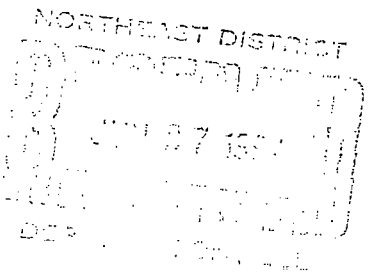
2. If ACP (if AOP, #3,5,6,7,8,9 do not apply)
   - 1. Rule limits
   - 2. Other limits - NSPS, NSR, Toxics, Used Oil, Soil Decon
   - 3. AAQ (if renewal AOP, use SCREEN Model)
   - 4. Additional Information
   - 5. Draft permit - (copy to GBO and/or LO - based on location).
   - 6. P/N - copy to GBO and LO
   - 7. Intent - copy to GBO and LO
   - 8. OGC at end of 14 days - call for P/N response
   - 9. Prepare CP
   - 10. APIS
   - 11. Prepare OP
   - 12. 10/29/93, Place yellow Post-its on pages to be signed and also note the clock date.
   - * 13. ~~7/14/94, Copy of~~ Title V permits (and revisions and ~~modifications) to Bruce~~ Mitchell.

[1]Also copy 1.2.1(a),(b),(c),and (d) if a biohaz waste incinerator or soil decon.

[2]If OGC has assigned an OGC case number during processing, then when permit issued, etc. the E-mail message is to be sent to NED permitting atty at OGC.

* 07-06-95 BL OK'd to put a copy of LFC_OPMD on T. ✓
07/07 I did. ✓

LFC POWER SYSTEMS CORPORATION



VIA FAX AND MAIL
(904) 448-4366

June 23, 1994

Florida Department of Environmental Protection
Northeast District - Air Section
Suite B200
7825 Bay Meadows Way
Jacksonville, Florida 32256-7577

ATTENTION: **Mr. John Cole**

SUBJECT: **PERMITTEE: LFC NO. 47 CORPORATION**
SOURCE LOCATION: CR-591 MADISON, FLORIDA
I. D. NUMBER: 31 GVL 40001101
PERMIT NUMBER: AC40-248258

Dear Mr. Cole:

We have received the new Permit to Construct dated June 10, 1994.

As we have discussed by telephone and I have written in my letter to you on May 6, 1994, there will be no physical construction (there maybe some operating adjustments) to this existing plant. (We are told that Florida DEP used the "construction permit" procedure due to the increase in emissions.) However this new permit states "installation shall be completed by 06-30-94" and that a completed "Certificate of Completion of Construction" be filed. To comply with the permit, this letter is hereby the official Notification/Certificate that "installation" has been completed and that "Completion of Construction" has occurred. When the plant is brought back on line (startup) an emissions test will be performed within 45 days as required by this new permit.

If further discussion is necessary, please contact me at (503) 697-0262. Thank you for your assistance.

Sincerely,

T. K. Sieckman

T. K. Sieckman
Manager - Development and Operation Administration

cc: Christopher L. Kirts
David J. Brown
Henry Lyczak
Myron Burr

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

Department of Environmental Protection

Lawton Chiles
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

Virginia B. Wetherell
Secretary

CERTIFIED - RETURN RECEIPT

June 28, 1994

Mr. David J. Brown
Director of Biomass Operations
LFC No. 47 Corporation
4000 Kruse Way Place, Bldg. One
Lake Oswego, Oregon 97035

Dear Mr. Brown:

Madison County - AP
LFC No. 47 Corporation

ID #	/	Project
31GVL40001101	/	Carb. Fuel Boiler

Pursuant to Florida Administrative Code Rules 17-4.03 and 17-4.09 and Section 120.60, Florida Statutes, an application form for a permit to operate an air pollution source is being forwarded to you since, according to our records, your present permit No. AC40-248258 EXPIRES 12-31-94.

Please submit the original and 1 copy of the completed and signed form by 10-31-94 for processing by this office. Include test reports as required in the permit or state when they were submitted.

A permit application processing fee is not required. Instead, a Title V annual operation fee will be required starting in early 1995 for TPY emitted in 1994 per FAC Rule 17-213.

If there are any questions regarding the above, please contact Johnny Cole at 904/448-4310, Ext. 236.

Sincerely,

Robert J. Leetch, P.E.
District Air Program

RJL:JC

Enclosure (X) C of C of Constr.
( ) Renewal form
( ) P.E. Certification form
( ) Regular form

LFC POWER SYSTEMS CORPORATION

VIA FAX (904) 448-4366

May 23, 1994

Florida Department of
Environmental Protection
Northeast District - Air Section
Suite B200
7825 Bay Meadows Way
Jacksonville, Florida 32256-7577

ATTENTION: **Mr. Christopher L. Kirts, P.E.**
District Air Program Administrator

SUBJECT: **PERMITTEE: LFC NO. 47 CORPORATION**
SOURCE LOCATION: CR-591 MADISON, FLORIDA
I.D. NUMBER: 31 GVL 40001101
PERMIT NUMBER: AC40-248258

Dear Mr. Kirts:

As requested, the Notice of Intent to Issue Permit was published within the thirty (30) day time period in the Madison County Carrier on May 18, 1994. Proof of this publication is shown on the attached FAX from the Madison County Carrier dated May 23, 1994. This proof is being transmitted within the required seven days.

If further information is needed, please contact me at 503-697-0262, or David Brown, Director of Biomass Operations at 503-697-1736.

Sincerely,

Ted Sieckman

T. K. Sieckman
Manager - Development and Operations Administration

TKS409.Let:jsm
Attachment

cc: D. Brown
B. Zegel
M. Burr
J. Cole, Florida Dept. of Environmental Protection

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

(over)

Madison County Carrier

Chosen one of Florida's Top Three Newspapers

Madison, Florida 32341

Fax Cover Sheet

TO

Name: Ted Seckman, LFC Power Systems

Origin:

Fax: 503-697-0288

SUBJECT: Enclosed Copy of Legal notice, which ran in Madison County Carrier on May 18, 1994

FROM: Ruth Hagen

The Madison County Carrier
P.O. Drawer 772
Madison, Florida 32341
Office: (904) 973-4141
Fax: (904) 973-4121

Date: 5-23-94 **Number of pages: (including this one)** 2

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a permit to LFC No. 47 Corporation which has a mailing address of 4000 Kruse Way Place, Bldg. One, Lake Oswego, Oregon 97035. This project is to modify the operation of the carbonaceous fuel fired boiler by increasing the hours of operation from 8,064 to 8,400 hours per year, and increasing the fuel input rate from 136.18 to 185 MMbtu per hour, and is located on CR 591, 1.5 miles north of Madison, Madison County, Florida. The Department has assigned file number AC40-248258 to this project.

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, Florida Statutes. 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 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, Florida Statutes.

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 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, Florida Statutes, 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, Florida Administrative Code.

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 the Department of Environmental Protection, Northeast District Office, 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7577.
5/18

LFC POWER SYSTEMS CORPORATION

VIA FAX AND MAIL
(904) 448-4366

May 6, 1994

Mr. John Cole
Florida Department of Environmental Protection
Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

SUBJECT: AIR PERMIT MODIFICATION - RESPONSE TO DRAFT
Permittee: LFC No. 47 Corporation
Source Location: CR-591 Madison, Florida
I.D. Number: 31 GVL 40001101
Permit Number: A0404-179441
New Draft Permit Number: AC 40-248258

Dear Mr. Cole:

This letter is to confirm my understanding of our May 6, 1994 telephone conversation.

1. LFC will advertise the NOTICE OF INTENT TO ISSUE PERMIT.

2. Even though no construction will take place, LFC's application to modify the existing operating permit is being considered an application for "construction" due to the nature of the application.

3. The Operating Adjustments that LFC will make to comply with the new permit must be completed by a date stated in the new "construction" permit and a new operating permit must be applied for by a specific date, also stated in the "new construction" permit.

4. Test for emissions must be completed within 45 days after the Operating Adjustments are completed as noted in #3 above.

5. In Special Conditions #8, the F_d is 9,280 DSCF/MMBtu, which is the published value for wood. However, other carbonaceous fuels (as defined by Florida Regulations) have different F_d, such as bark with a F_d = 9,600 DSCF/MMBtu. I understand that you will change the draft permit to allow other F_d values or the actual F_d can be determined at the time of doing an air test.

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

Please let me know if the above is also your understanding.

Thank you for your assistance in obtaining this air permit.

Sincerely,

Ted Sieckman

T. K. Sieckman
Manager - Development and Operation Administration

TKS401.Let:jsm

5/9

mod CP expire
when T-V app.
in due? No.

5/13 ~ 2:20 called TS;
out; to call Mon.

5/16 ~ 11:15 he called;
add the SC 8 "or
an acceptable determined F

Florida Department of
Environmental Protection

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

CERTIFIED MAIL - RETURN RECEIPT

Mr. David J. Brown
Director of Biomass Operations
LFC No. 47 Corporation
4000 Kruse Way Place, Bldg. One
Lake Oswego, Oregon 97035

Date: April 27, 1994

County: Madison County - AP
Subject: Boiler (Carbonaceous fuel fired)

Dear Mr. Brown:

This is in reference to your application for an air pollution source permit for the above referenced project.

Florida Administrative Code (FAC) Section 17-103.150 and Florida Statute 403.815 require that you publish a notice of intent at your own expense.

Please have the attached **NOTICE OF INTENT TO ISSUE PERMIT** published one time only in the legal advertisement section of a major newspaper of general circulation in Madison County, in the area close to where the project is located (affected area) as soon as possible and no later than thirty (30) days from receipt of this notice.

Proof of publication shall be provided to the Department of Environmental Protection within seven (7) days of publication. The processing of the application will be delayed until fourteen (14) days after this office has received the proof of publication. Failure to publish this Notice of Intent will be basis for denial of the permit.

If you have any questions, please contact Johnny Cole at (904) 448-4310, Ext. 236.

Sincerely,

Christopher L. Kirts, P.E.
District Air Program
Administrator

CLK:JC:bt
Attachment(s)

cc: Office of General Counsel - Air Permitting
William C. Zegel, P.E.
Gainesville Branch Office
Don Jensen, SRWMD

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

CERTIFIED - RETURN RECEIPT

In the Matter of an
Application for Permit by:

Mr. David J. Brown
Director of Biomass Operations
LFC No. 47 Corporation
4000 Kruse Way Place, Bldg. One
Lake Oswego, Oregon 97035

DEP File No. 248258

County: Madison - AP

INTENT TO ISSUE

The Department of Environmental Protection gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the application specified above, for the reasons stated below.

The applicant, David J. Brown, Director of Biomass Operations, LFC No. 47 Corporation, applied on 04-01-94 to the Department for a permit to modify the operation of the carbonaceous fuel fired boiler by increasing the hours of operation from 8,064 to 8,400 hours per year, and increasing the fuel input rate from 136.18 to 185 MMbtu per hour. The facility will be located on CR 591, 1.5 miles north of Madison, Madison County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes (F.S.) and Sections 17-4.05 and 17-4.07, Florida Administrative Code (FAC). The project is not exempt from permitting procedures. The Department has determined that a modification permit are required for the proposed work.

The Department intends to issue the permit for the following reason(s):

The applicant has provided reasonable assurances that the proposed work will comply with all applicable department regulations.

Pursuant to Section 403.815, Florida Statutes and 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 Permit. 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. The applicant shall provide proof of publication to the Department, at Northeast District Office, 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7577 within seven (7) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit 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, Florida Statutes. 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 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 their 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, Florida Statutes.

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 intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the 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 receipt of this intent, 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.

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Ernest E. Frey, P.E.
Director of District Management
Northeast District Office
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577
(904)448-4300

EEF:bt

Copies furnished to:

Office of General Counsel - Air Permitting
John B. Koogler, Ph.D., P.E.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to S120.52 , Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged. 4/27/94
Clerk Date

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed before the close of business on 4-27-94 to the listed persons.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a permit to LFC No. 47 Corporation which has a mailing address of 4000 Kruse Way Place, Bldg. One, Lake Oswego, Oregon 97035. This project is to modify the operation of the carbonaceous fuel fired boiler by increasing the hours of operation from 8,064 to 8,400 hours per year, and increasing the fuel input rate from 136.18 to 185 MMbtu per hour, and is located on CR 591, 1.5 miles north of Madison, Madison County, Florida. The Department has assigned file number AC40-248258 to this project.

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, Florida Statutes. 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 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, Florida Statutes.

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 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, Florida Statutes, 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, Florida Administrative Code.

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 the Department of Environmental Protection, Northeast District Office, 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7577.

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Virginia B. Wetherell
Secretary

DRAFT

PERMITTEE:

LFC No. 47 Corporation
4000 Kruse Way Place, Bldg. One
Lake Oswego, Oregon 97035

I.D. Number:	31GVL40001101
Permit/Cert Number:	AC40-248258
Date of Issue:	
Expiration Date:	
County:	Madison
Latitude/Longitude:	30°30'00"N; 83°23'45"W
UTM:	E-(17)270.1; N-3376.5
Project:	Boiler (Carbonaceous fuel fired)

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes (FS), and Florida Administrative Code (FAC) Rule(s) 17-210, 17-212, 17-272, 17-296, 17-297 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of the carbonaceous fuel-fired boiler by increasing the hours of operation from 8,064 to 8,400 hours per year, and increasing the fuel input rate from 136.18 to 185 MMbtu per hour. Particulate matter (PM) emissions are controlled by a multiclone and a venturi scrubber in series.

Located on CR 591, 1.5 miles north of Madison, Madison County, Florida.

In accordance with:

Construction permit application dated 09-16-83
Certificate of Completion of Construction form dated 06-19-85
Modification application received 04-01-94

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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 and 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 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;

GENERAL CONDITIONS:

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 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 17-730.300, 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:

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

GENERAL CONDITIONS:

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 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.

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SPECIFIC CONDITIONS:

1. The ID No. and Project Name for this source shall be used on all correspondence.

2. The construction of this installation shall be completed by _____ and the operation permit application is to be submitted by _____.

3. The maximum input rate (operating rate) is BELOW and shall not be exceeded without prior approval.

RATE	MATERIAL
185 MMBTU/hr[1]	Carbonaceous Fuels[2]

[1]Basis: 4500 BTU/lb; 41,111 lbs/hr
[2]Consist of wood, bark, paper, waste wood

4. Testing of emissions must be performed at an operating rate of at least 90% of the rate in Specific Condition (SC) No. 3, or SC No. 5 will become effective.

5. The operating rate shall not exceed 110% of the rate during the most recently accepted test, except for additional testing purposes, and shall not exceed the rate in SC No. 3. After testing at a higher rate, the operating rate shall continue to not exceed the aforementioned rate until the test report at the higher rate is reviewed and accepted by the Department.

6. The permitted maximum allowable emission rate for each pollutant is as follows:

POLLUTANT	BELOW	LBS/HR	TPY	FAC RULES
PM [1]		35[2]	147[3]	----
VE [4]	30% opacity[5]			17-296.410(2)(b)1.

[1]PM - particulate matter
[2]Basis: applicant requested limit of 0.189 lb per MMBTU; 185 MMBTU/hr
[3]Operation hours shall be limited to 24 H/D, 7 D/W, 50 W/Y and shall be recorded.
[4]VE - visible emissions
[5]except 40% for 2 mins/hr.

7. Unconfined particulate matter emissions shall be controlled by application of dust suppressants, unless an alternative method is requested and approved, to all areas necessary to reasonably control such emissions per FAC Rule 17-296.310(3).

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SPECIFIC CONDITIONS:

8. Test the emissions for the following pollutant(s) within 45 days after startup, notify the Department 15 days prior to testing [FAC Rule 297.340(1)(i)], and submit the test report documentation to the Department with the operation permit application within 45 days after completion of the testing [FAC Rule 297.570(2]:

POLLUTANT	TEST METHOD(s)
PM[1]	EPA 5
VE	EPA 9

[1]Compliance and test heat input rate based on test data and 9280 DSCF/MMBTU.

Tests and test reports shall comply with the requirements of FAC Rules 17-297.330 and 17-297.570, respectively.

9. In each test report, submit the maximum input/production rate at which this source was operated since the most recent test.

10. Submit an annual operation report for this source on the form supplied by the Department for each calendar year on or before March 1.

11. Any revision(s) to a permit (and application) must be submitted and approved prior to implementing.

12. A completed Certificate of Completion of Construction form with the compliance report is due 90 days prior to _____.

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
Ernest E. Frey, P.E.
Director of District Management

Madison Co - AP

LFC

M

04-18-94 ~~03-2-87~~ AAQ Review

Per Tom R. on 10/29/86

1. use data from similar site for bckgrd

2. " direct ratio rollback

model results show 24-hr = ~~484~~ 19

1984 AAQ rpt shows in Palatka

'82 highest 88; 2nd highest = 70

Assuming Union Co. is similar & using 2nd highest as bckgrd

AAQS 150

- bkgrd 70

80 with not be reduced. MAI is NA.

So, max E_{AL} ~~reduced by direct ratio~~

max E_{AL} = ~~37.48~~ | 80 | = | ~~484~~ 19 |

TPY = 20 | 5 | 50 | = | 2000 |

10/21/86
John Late

AAQ model input form

.1261

emis = 35 lbs/hr | 454 gm/lb | hr/3600 sec = 4.41 gm/sec

ht = 69.38 ft | .3048 = 21.15 m

diam[1] = 5.8 ft | .3048 = 1.77

temp[2] = = 339 °K

vel[3] = = 13.75 m/sec

1 if rectangular, De = 1.128 √A

2 F = C X 1.8 + 32

C = (151 − 32)/1.8 = 66.11 + 273 = 339

3 ACFM = vel X A A = πD²/4 = 3.14 (5.8)²/4 = 26.41

vel = 71500/26.41 = 2708 ft/min X .5080 = 1375 cms

13.75 m/sec = 100 ÷

AMBIENT AIR QUALITY IN FLORIDA 1984

February 1986

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

This publication was produced at an annual cost of $6,884 or $6.88 per copy to inform the public of air pollution levels throughout Florida.

Table A-6. Summary of Total Suspended Particulate Data (Continued).

District/ County/City	Site Address	SAROAD Site No.	Station Type	Spatial Scale	Monitoring Objective	Year	TSP Concentration (ug/m^3) 24-hr. Value Highest	24-hr. Value Second Highest	Annual Geometric Mean	Geometric Std. Dev.
Nassau County (Cont'd)										
Fernandina Beach	Nassau Fertilizer Co.	1200-008-F	SLAMS	Neighborhood	Source	82	101	72	38?	1.55
						83	84	81	38	1.42
						84	135	104	38	2.04
Putnam County										
Palatka	Kay Larkin Airport	3780-001-F	SLAMS	Neighborhood	Source	82	88	70	31	1.45
						83	63	58	29	1.40
						84	74	69	32	1.48
Palatka	James A. Long Elementary School	3780-006-F	SPM,	Neighborhood	Source	82	-	-	-	-
						83	60	56	-	-
						84	120	106	40	1.54
St. Johns County										
St. Augustine	St. Augustine STP	3900-003-F	SPM	Neighborhood	Pop. Exposure	82	170	103	42	1.60
						83	119	107	37	1.53
						84	100	96	44	1.39
Taylor County										
Perry	657 Plantation Road	3580-003-F	SPM	Neighborhood	Pop. Exposure	82	123	79	31	1.84
						83	73	64	32	1.63
						84	100	84	37	1.54
ST. JOHNS RIVER DISTRICT										
Brevard County										
Titusville	TICO Airport	0380-004-F	SLAMS	Neighborhood	Source	82	71	61	25	1.55
						83	54	47	24	1.50
						84	67	51	26	1.46

? This site had one-half or more of its scheduled observations but less than the minimum number of observations needed to make up a valid annual geometric mean.

- This site was not operated during the year or had less than one-half of its scheduled observations.

04-18-94

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                    PTPLUI (VERSION 81035)
                    AN AIR QUALITY DISPERSION MODEL IN
                    SECTION 2. NON-GUIDELINE MODELS
                    IN UNAMAP (VERSION 5) DEC 82
                    SOURCE: FILE 12 ON UNAMAP MAGNETIC TAPE FROM NTIS
DO YOU WISH TO USE THE ABRIDGED VERSION?
NO

        IPTPLU - IMPROVED POINT SOURCE SCREENING MODEL - VERSION 81035
        THE INTERACTIVE VERSION OF PTPLU DEVELOPED UNDER CONTRACT BY
        AEROCOMP, INC. - COSTA MESA, CA     FOR THE
        ENVIRONMENTAL OPERATIONS BRANCH, EPA

 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
1

PRESENT OPTIONS ARE:
 1  COMPUTE GRADUAL RISE
 2  COMPUTE DOWNWASH
 3  COMPUTE BUOYANCY INDUCED DISPERSION

CHANGE WHICH OPTION? (4 TO DISPLAY; 5 TO RETURN TO MENU)

1

CHANGE WHICH OPTION? (4 TO DISPLAY; 5 TO RETURN TO MENU)
3

CHANGE WHICH OPTION? (4 TO DISPLAY; 5 TO RETURN TO MENU)
5

 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
4

PRESENT SOURCE CHARACTERISTICS ARE:
  1  SOURCE STRENGTH (G/SEC):  2750.0
  2  PHYSICAL HEIGHT OF STACK (M):  165.0
  3  STACK GAS TEMPERATURE (K): 425.0
  4  STACK GAS VELOCITY (M/SEC):  38.0
  5  INSIDE STACK DIAMETER (M):  4.5

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
1
ENTER NEW SOURCE STRENGTH (G/SEC):
```

1 hr max = 46.8

24 hr = 11 X .F = 18.7

```
CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
2
ENTER NEW PHYSICAL STACK HEIGHT (M):
21.15

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
3
ENTER NEW STACK GAS TEMPERATURE (K):
339

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
4
ENTER NEW STACK GAS VELOCITY (M/SEC):
13.75

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
5
ENTER NEW INSIDE STACK DIAMETER (M):
1.77

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
6

PRESENT SOURCE CHARACTERISTICS ARE:
  1  SOURCE STRENGTH (G/SEC):      4.4
  2  PHYSICAL HEIGHT OF STACK (M):   21.1
  3  STACK GAS TEMPERATURE (K): 339.0
  4  STACK GAS VELOCITY (M/SEC):  13.8
  5  INSIDE STACK DIAMETER (M):  1.8

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
7

 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
7


PTPLU--IMPROVED MODEL FOR SCREENING MAXIMUM CONCENTRATIONS --- VERSION 81035

>>>INPUT PARAMETERS<<<

***TITLE***
*** PTPLU SCREEN  ***

***OPTIONS***
IF = 1, USE OPTION
IF = 0, IGNORE OPTION
IOPT(1) = 0  (GRAD PLUME RISE)
IOPT(2) = 1  (STACK DOWNWASH)
IOPT(3) = 0  (BUOY. INDUCED DISP.)

***METEOROLOGY***
AMBIENT AIR TEMPERATURE =   293.00 (K)
MIXING HEIGHT           =  2000.00 (M)
ANEMOMETER HEIGHT       =     7.00 (M)
```

D: .20, E: .30, F: .30

BEST AVAILABLE COPY

RECEPTOR HEIGHT = .00 (M)

SOURCE
EMISSION RATE = 4.41 (G/SEC)
STACK HEIGHT = 21.15 (M)
EXIT TEMP. = 339.00 (K)
EXIT VELOCITY = 13.75 (M/SEC)
STACK DIAM. = 1.77 (M)

>>>CALCULATED PARAMETERS<<<

VOLUMETRIC FLOW = 33.83 (M**3/SEC)
BUOYANCY FLUX PARAMETER = 14.33 (M**4/SEC**3)

*** PTPLU SCREEN ***

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
1	1.00	3.4947E-05	.593	178.9
1	1.50	3.8188E-05	.495	126.3
1	2.00	4.0778E-05	.432	100.0
1	2.50	4.2590E-05	.379	84.3
1	3.00	4.4117E-05	.345	73.7

42.6

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
1	1.12	3.5897E-05	.567	162.4
1	1.68	3.9251E-05	.469	115.3
1	2.23	4.1598E-05	.411	91.8
1	2.79	4.3565E-05	.358	77.7
1	3.35	4.4831E-05	.326	68.2

44.8

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
2	1.00	2.3608E-05	1.195	178.9
2	1.50	2.9601E-05	.870	126.3
2	2.00	3.3927E-05	.703	100.0
2	2.50	3.7084E-05	.601	84.3
2	3.00	3.9389E-05	.532	73.7
2	4.00	4.2238E-05	.444	60.6
2	5.00	4.3721E-05	.380	52.7

43.7

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
2	1.18	2.6007E-05	1.047	154.8
2	1.77	3.2112E-05	.768	110.3
2	2.36	3.6302E-05	.625	88.0
2	2.95	3.9194E-05	.538	74.6
2	3.54	4.1170E-05	.479	65.7
2	4.72	4.3319E-05	.394	54.6
2	5.90	4.4523E-05	.345	47.9

44.5

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
3	1.00	1.9237E-05	2.222	178.9
3	1.50	2.5637E-05	1.517	126.3
3	2.00	3.0614E-05	1.175	100.0

3	3.00	3.7508E-05	.841	73.7
3	4.00	4.1643E-05	.678	60.6
3	5.00	4.4027E-05	.582	52.7
3	7.00	4.5768E-05	.474	43.7
3	10.00	4.5952E-05	.389	36.5
3	12.00	4.6697E-05	.349	33.0
3	15.00	4.6564E-05	.309	29.6

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46.7

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
3	1.25	2.2607E-05	1.800	147.6
3	1.87	2.9449E-05	1.245	105.5
3	2.50	3.4457E-05	.975	84.4
3	3.12	3.8118E-05	.816	71.7
3	3.74	4.0777E-05	.712	63.3
3	4.99	4.4010E-05	.583	52.8
3	6.24	4.5448E-05	.507	46.4
3	8.73	4.5539E-05	.421	39.2
3	12.48	4.6757E-05	.342	32.4
3	14.97	4.6570E-05	.310	29.6
3	18.71	4.5315E-05	.278	26.9

46.8

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
4	1.00	8.4674E-06	7.540	178.9
4	1.50	1.3394E-05	4.227	126.3
4	2.00	1.7934E-05	2.960	100.0
4	2.50	2.1675E-05	2.265	84.3
4	3.00	2.4899E-05	1.840	73.7
4	4.00	2.9980E-05	1.354	60.6
4	5.00	3.3584E-05	1.090	52.7
4	7.00	3.6651E-05	.919	43.7
4	10.00	3.7638E-05	.735	36.5
4	12.00	3.8726E-05	.651	33.0
4	15.00	3.9155E-05	.568	29.6
4	20.00	3.8210E-05	.487	26.2

<

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
4	1.32	1.1634E-05	5.064	140.8
4	1.98	1.7754E-05	2.999	100.9
4	2.64	2.2607E-05	2.129	81.0
4	3.30	2.6582E-05	1.659	69.0
4	3.96	2.9787E-05	1.370	61.0
4	5.27	3.4364E-05	1.037	51.1
4	6.59	3.6404E-05	.955	45.1
4	9.23	3.6966E-05	.779	38.2
4	13.18	3.9032E-05	.613	31.5
4	15.82	3.9105E-05	.551	28.9
4	19.78	3.8277E-05	.490	26.3
4	26.37	3.5879E-05	.431	23.7

<

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
5	1.00	2.8288E-05	5.056	93.3
5	1.50	2.5103E-05	4.117	84.2
5	2.00	2.2757E-05	3.877	78.4
5	2.50	2.0912E-05	3.526	74.3
5	3.00	1.9475E-05	3.269	71.2
5	4.00	1.7338E-05	2.907	66.6
5	5.00	1.5788E-05	2.662	63.4

<

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
5	1.39	2.5672E-05	4.270	85.8
5	2.09	2.2385E-05	3.804	77.6
5	2.79	2.0049E-05	3.369	72.5
5	3.48	1.8346E-05	3.075	68.8
5	4.18	1.7024E-05	2.857	66.0
5	5.57	1.5068E-05	2.553	61.9
5	6.97	1.3658E-05	2.343	58.9

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
6	1.00	2.4282E-05	9.631	81.1
6	1.50	2.2052E-05	7.599	73.5
6	2.00	2.0383E-05	7.000	68.7
6	2.50	1.8924E-05	6.329	65.3
6	3.00	1.7766E-05	5.799	62.7
6	4.00	1.6004E-05	5.062	58.9
6	5.00	1.4697E-05	4.567	56.2

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
6	1.39	2.2460E-05	7.930	74.8
6	2.09	2.0091E-05	6.917	68.0
6	2.79	1.8231E-05	6.005	63.7
6	3.48	1.6840E-05	5.397	60.7
6	4.18	1.5741E-05	4.956	58.3
6	5.57	1.4082E-05	4.351	54.9
6	6.97	1.2860E-05	3.945	52.5

(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.

(2) THE PLUME IS CALCULATED TO BE AT A HEIGHT WHERE CARE SHOULD BE USED IN INTERPRETING THE COMPUTATION.

(3) NO COMPUTATION WAS ATTEMPTED FOR THIS HEIGHT AS THE POINT OF MAXIMUM CONCENTRATION IS GREATER THAN 100 KILOMETERS FROM THE SOURCE.

```
 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
8
PTPLU RUN TERMINATED AT USER REQUEST
Stop - Program terminated.

Command (C) :
```

Madison Co. - AP

LFC

Carb. Boiler

mod. ~~to~~ ACP review

04-18-94

5. Calc emis via rule

$$\max E_{AL}(PM) = 185 \frac{MMBTU}{hr} \Big| \frac{0.2\ lb}{MMBTU} = 37\ lb/hr$$

$$TPY = \frac{37}{2000} \Big| \frac{8400}{4.2} = 155.4$$

Requested & paid fee for

$E = 35$ lb/hr

$$TPY = \frac{35}{2000} \Big| 4.2 = 147$$

~~lb~~ $lb/MMBTU = \frac{35}{185} = 0.189$

03/25/93 test $E(PM) = 15.14$ lb/hr

next test due by 05-16-94

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

225670

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from LFC POWER SYSTEMS CORPORATION Date APRIL 1, 1994

Address 4000 KRUSE WAY PLACE BUILDING ONE, SUITE 255 LAKE OSWEGO OR 97035 Dollars $ 2,000.00

Applicant Name & Address LFC NO. 47 CORPORATION DAVID J. BROWN, DIR OF BIOMASS OPERATION SAME ADDRESS

Source of Revenue CARB. BOILER

Revenue Code 002222 CK 56276 Application Number AC 40-248258

By Gloria Badger

CHECK: 56276 03/21/94 FLORIDA DEPT OF ENVIRONMENTAL FLOR076 CHECK TOTAL $ 2000.00

LFC POWER SYSTEMS CORPORATION
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035

PNC National Bank
Wilmington, DE 19899

62-15/311

No. 56276

CHECK DATE	CHECK AMOUNT
03/21/94	$2,000.00

PAY *Two Thousand & no/100 Dollars*

TO THE ORDER OF
FLORIDA DEPT OF ENVIRONMENTAL
PROTECTION, NE DISTRICT
7825 BAY MEADOWS WAY, STE B200
JACKSONVILLE, FL 32256-7577

LFC POWER SYSTEMS CORPORATION
Mary B. Bell

[redacted]

LFC POWER SYSTEMS CORPORATION

March 25, 1994

Florida Department of
Environmental Protection
Northeast District - Air Section
Suite B200
7825 Bay Meadows Way
Jacksonville, Florida 32256-7577

Attention: Mr. Robert Leetch
District Air Program Administrator

SUBJECT: REQUEST FOR AIR PERMIT MODIFICATION - REVISED
Permitee: LFC No. 47 Corporation
Source Location: CR-591 Madison, Florida
I.D. Number: 31 GVL 40001101
Permit Number: A040-179441

Dear Mr. Leetch:

Enclosed for your review and approval is LFC's Air Permit Modification Application, as revised. Also enclosed is the required filing fee of $2,000 determined from the level of emission.

If further information is needed, please contact me at 503-697-0262, or David Brown, Director of Biomass Operations at 503-697-1736.

Sincerely,

T. K. Sieckman

T. K. Sieckman
Project Manager

TKS385.Let:jsm

cc: D. Brown
B. Zegel
M. Burr

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

file

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Carbonaceous Fuel Fired Boiler [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: LFC No. 47 Corporation COUNTY: Madison

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) Carbonaceous Fuel Fired Boiler with Multiclone and Venturi Scrubber

SOURCE LOCATION: Street CR-591 City Madison

UTM: East (17)240.1 North 3376.5

Latitude 30 ° 30 ' 00 "N Longitude 83 ° 23 ' 45 "W

APPLICANT NAME AND TITLE: David J. Brown, Director of Biomass Operation

APPLICANT ADDRESS: 4000 Kruse Way Place, Bldg. 1, Lake Oswego, OR 97035

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of LFC No. 47 Corporation

I certify that the statements made in this application for a Modified 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: David J. Brown

David J. Brown, Director of Biomass Operations
Name and Title (Please Type)

Date: 3/25/94 Telephone No. (503) 697-1736

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 _____

William C. Zegel
Name (Please Type)

Water and Air Research, Inc.
Company Name (Please Type)

6821 SW Archer Road, Gainesville, FL 32608
Mailing Address (Please Type)

Florida Registration No. 23465 Date: 3/24/94 Telephone No. (904) 372-1500

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.

Modification of Operating Conditions:

--Increase hours of operation from 8,064 to 8,400 hours per year; and

--Increase fuel input rate from 136.18 to 185 MMBtu per hour.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction N/A Completion of Construction N/A

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.)

No change from existing permit

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Air Permit A040-179441

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ; if power plant, hrs/yr 8,400; if seasonal, describe: _____

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 Deterioriation" (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? N/A

   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 justification 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:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
	See Section III, E. Fuels			

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): See Section III, E. Fuels

2. Product Weight (lbs/hr): See Section III, E. Fuels

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emisaion		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Particulate (Flyash)	35	147	0.2 lbs/MMBtu	37	1,463	6,145	Point No. 4
Visible Emissions			1.5 Ringlemann				Point No. 4
(Opacity)							

[1]See Section V, Item 2.

[2]Reference 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)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

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)
No change from original permit				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Carbonaceous Fuels	41,111 lbs.	41,111 lbs.	185
(wood, bark, paper,			
waste wood)			

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: 0% Percent Ash: 3.0%

Density: 20-25 lbs./CF lbs/gal Typical Percent Nitrogen: 0.22%

Heat Capacity: 4500 BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

No Change

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 69.38 ft. Stack Diameter: 5.8 ft.

Gas Flow Rate: 71,500 ACFM 62,000 DSCFM Gas Exit Temperature: 151 °F.

Water Vapor Content: 17.4 % Velocity: 45.1 FPS

SECTION IV: INCINERATOR INFORMATION

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 Diamter: _____ 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) _____

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

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

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:

[1]Explain method of determining efficiency.
[2]Energy 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:

[1]Explain method of determining efficiency.
[2]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:

[1]Applicant 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

1. _____no. sites _____ TSP _____( ) SO^{2}* _____ 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

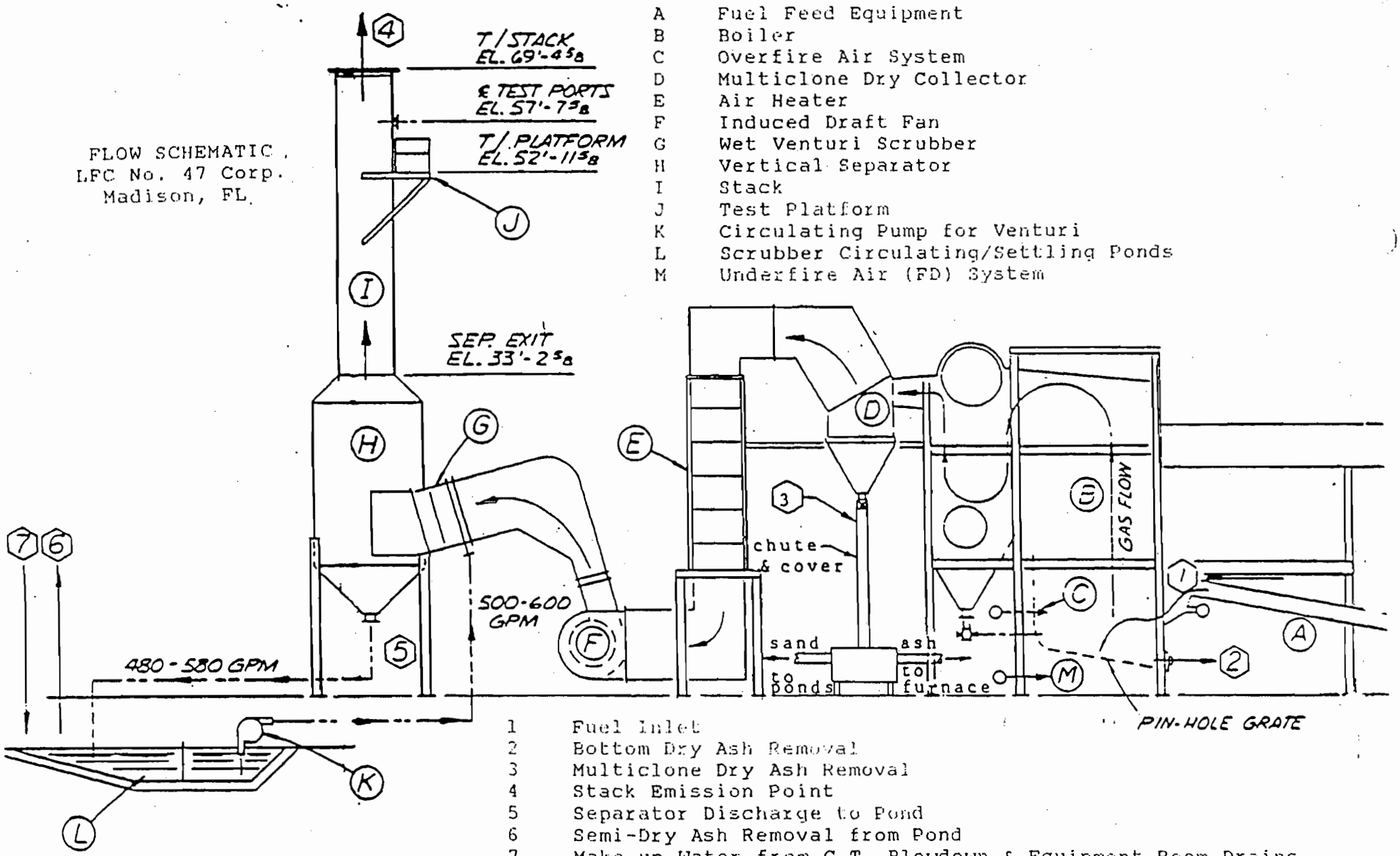
Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

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.

FLOW SCHEMATIC
LFC No. 47 Corp.
Madison, FL



A	Fuel Feed Equipment
B	Boiler
C	Overfire Air System
D	Multiclone Dry Collector
E	Air Heater
F	Induced Draft Fan
G	Wet Venturi Scrubber
H	Vertical Separator
I	Stack
J	Test Platform
K	Circulating Pump for Venturi
L	Scrubber Circulating/Settling Ponds
M	Underfire Air (FD) System

1	Fuel Inlet
2	Bottom Dry Ash Removal
3	Multiclone Dry Ash Removal
4	Stack Emission Point
5	Separator Discharge to Pond
6	Semi-Dry Ash Removal from Pond
7	Make-up Water from C.T. Blowdown & Equipment Room Drains

Florida Department of
Environmental Protection

Cole

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

March 9, 1994

CERTIFIED MAIL - RETURN RECEIPT
P 520 288 101

Mr. T. K. Sieckman
LFC Power Systems Corporation
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, Oregon 97035

RE: X Returned Check #55721, Amount $250.00

Dear Mr. Sieckman:

This is to acknowledge receipt of your application to construct a dock landward of DER Jurisdiction.

The above item(s) are being returned for the following reason(s):

X Insufficient fee or ___ no fee was submitted. Correct fee is $4500.00. (Effective July 11, 1993, the Department amended its permit fee rule, Florida Administrative Code Rule FAC 17-4.050.)

____ No Fee is required. (Application will be processed.)

____ A _____ application is required (See attached).

____ Other_____

Please return application and check to the above listed address within 10 days of receipt of this letter. The permit application processing time requirements of Section 120.60(2) and 403.0876, F.S., will not begin until the Department receives the correct application and correct fee.

If you have any questions regarding your application, please contact **Johnny Cole** at (904)448-4310, ext. 378 .

Sincerely,

Ollie Henderson

Ollie Henderson
Data Processing

OH/gb
Enclosure(s)
cc: Johnny Cole

Administration 448-4300
Air 448-4310
Waste Management 448-4320

Water Facilities 448-4330
Water Management 448-4340
FAX 448-4366

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

Date: 07-Mar-1994 01:29pm EST
From: Bob Leetch JAX
LEETCH_B
Dept: Northeast District Offi
Tel No: 904/448-4310 Ext. 381
SUNCOM: 880-4310

TO: Andy Allen PEN (ALLEN_A @ A1 @ PNS1)

Subject: LFC permit modification request

Andy,

It was brought to my attention that both the NED and NWD are processing a permit modification for LFC Power Systems Corp. (carbonaceous fuel fired boiler). We did not receive an application fee and since sent the package back and asked in a letter that the correct fee of $4,500 and to modify the construction permit be submitted. In our case they are currently permitted for 99 TPY and want a new rate of 155.4 TPY. We called DARM and asked should the fee be based on the new total rate or only on the increase, Willard Hanks of DARM recommended that we charge the fee based on the increase. We received a call from the owner and he asked why if he requested the exact changes at both sites the two requested fees are $4,500 (NED) and $250 (NWD)? I have not gotten back to him to explain why we feel the $4,500 fee is correct. I guess I am trying to see why you feel the fee should be $250 and if the requests are exactly the same as the permittee states. Let me know as soon as possible by DEC or give me or Johnny Cole a call at 448-4310, extension 234 and 236, respectively.

Thanks

Bob

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

Date: 07-Mar-1994 04:58pm EST
From: Andy Allen PEN
ALLEN_A@A1@PNS1
Dept: Northwest District Offi
Tel No: 904/444-8300
SUNCOM:

TO: Bob Leetch JAX (LEETCH_B@A1@JAX1)

Subject: RE: LFC permit modification request

BOB

I AM LOOKING INTO THE FEE ISSUE. FIRST PASS; NOTE IN THE FILE INDICATES UPON LFC'S REQUEST TO MODIFY THEIR PERMIT A NET EMISSION INCREASE OF 3.3 TPY WAS CALCULATED AND A RESPONSE WAS SENT REQUESTING A $ 250 BEFORE THE APPLICATION COULD BE PROCESSED. THE $250 FEE WAS RECEIVED TODAY MARCH 7. A QUICK LOOK AT THE FILE INDICATES THAT THE MODIFICATION REQUEST IS ADDRESSING CORRECTING THE OPERATING CONDITIONS TO BE CONSISTENT WITH THE CAPABILITY OF THE FACILITY AND WITH 17-296.410 WHICH ALLOWS 0.2 POUNDS PER MILLION BTU OF HEAT INPUT. MODIFYING A PERMIT TO BE CONSISTENT WITH REGULATIONS APPEARS TO BE A MINOR MODIFICATION FEE OF $250 VERSUS ASKING FOR A $4500 CONSTRUCTION PERMIT WHEN THERE IS NO PHYSICAL CONSTRUCTION TAKING PLACE.

WE WILL START PROCESSING THE APPLICATION TOMORROW, NOW THAT WE HAVE RECEIVED THE FEE AND WILL REEVALUATE WHEATHER THE FEE IS CORRECT. I LOOK FORWARD TO DISCUSSING THE DIFFERENT POINTS OF VIEW. I WILL TRY TO CALL AGAIN TOMORROW.

THANKS

ANDY

TC—
Please call Andy to discuss + then
contact the owner MR. Lehmann (503) 697-0262
Please let me know what happen
Thanks
EH

03/08 pm Ed M. & Andy A. called; we discussed; now they agree $4500 is the fee. EH

LFC

JOHNNY

TED SIEKMAN
CALLED ON
3/7/94 @ 1:18 PM

503/697-0262

TED SIECKMAN
503/697-0262
CALLED @
11:15AM
3-8-94

3/8/94 Ted S. called for fee rule.
Betty, yrs

FAX to
Ted Sieckman
fee rule pages 4 & 5

FAX 503-697-0288

~~Bob~~ FAXed ~ 2:40.

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

Date: 08-Mar-1994 04:45pm EST
From: Andy Allen PEN
ALLEN_A@A1@PNS1
Dept: Northwest District Offi
Tel No: 904/444-8300
SUNCOM:

TO: Bob Leetch JAX (LEETCH_B@A1@JAX1)

Subject: RE: LFC permit modification request

BOB

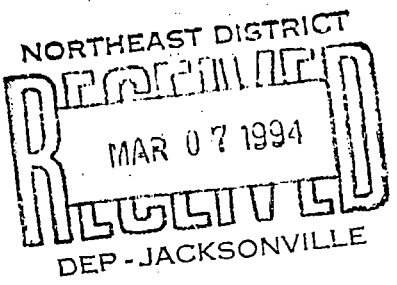
LFC'S PERMIT APPLICATION FOR THE NW DIST. RESULTS IN AN EMISSIONS INCREASE OF 66 TPY PARTICULATE. THEY ARE BEING NOTIFIED THAT AN ADDITIONAL $ 4250 IS REQUIRED (4500 DOLLAR FEE) TO PROCESS THE APPLICATION.

A NEW CONSTRUCTION PERMIT WILL BE ISSUED WITH THE NEW EMISSION LIMIT OF 0.2 LB PER MILLION BTU. PUBLIC NOTICE WILL BE REQUIRED AND TEST RESULTS TO PROVE COMPLIANCE AT THE PERMITTED EMISSIONS RATE WITH A REQUEST FOR A NEW OPERATING PERMIT WHICH WILL REQUIRE NO FEE SINCE THE NEW CONSTRUCTION PERMIT MAKES THEM TITLE V.

THANKS FOR THE HELP. WE TALKED TO JOHNNY COLE TODAY, AND APPEAR TO BE CONSISTENT WITH THE PERMITTING APPROACH.

THANKS
ANDY

LFC POWER SYSTEMS CORPORATION



February 28, 1994

Florida Department of
Environmental Protection
Northeast District - Air Section
Suite B200
7825 Bay Meadows Way
Jacksonville, Florida 32256-7577

Attention: Mr. Robert Leetch
District Air Program Administrator

SUBJECT: FILING FEE FOR AIR PERMIT MODIFICATION
Permitee: LFC No. 47 Corporation
Source Location: CR-591 Madison, Florida
I.D. Number: 31 GVL 40001101
Permit Number: A040-179441

Dear Mr. Leetch:

In addition to the air permit modification application submitted to you on February 18, 1994, please find enclosed the required filing fee of $250.00.

If further information is needed, please contact me at 503-697-0262.

Sincerely,

T. K. Sieckman

T. K. Sieckman
Project Manager

TKS375.Let:jsm

cc: D. Brown
B. Zegel
M. Burr

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

Air

Florida Department of Environmental Protection

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMIT DATA FORM

Project Source Name: Carb. Boiler

Type Code: AC Subcode: 1C

Check if: ___ GP ___ EXEMPT ___ TITLE V

Permit Processor's Initial: [illegible]

Correct Fee: 4500.00

Amount Received: 250.00

Data Entry Operator's Initial: ____

Amount Refund: ____

Comments:

NEDJ - JC

* ac 1C
See fee schedule

PATS # ____ RECEIPT DATE 3/8/94 RECEIPT # ____

✓ Insufficient fee or ___ no fee was submitted. Correct fee is $4500.00 (Effective July 11, 1993, the Department amended its permit fee rule, Florida Administrative Code Rule 17-4.050.)

___ No Fee is required. (Application will be processed.)

___ A _____ application is required (See attached).

___ Other: _____

Administration 448-4300
Air 448-4310
Waste Management 448-4320

Water Facilities 448-4330
Water Management 448-4340
FAX 448-4366

LFC POWER SYSTEMS CORPORATION Building One, Suite 255 * 4000 Kruse Way Place * Lake Oswego, OR 97035 **No. 55721**

DATE	INVOICE NO.	DESCRIPTION	AMOUNT	DISCOUNT	NET
02/28/94	CKRQ022894	AIR PERMIT #A040-179441	$ 250.00		$ 250.00

CHECK: 55721 03/01/94 FLORIDA DEPT OF ENVIRONMENTAL FLOR076 **CHECK TOTAL** $ 250.00

LFC POWER SYSTEMS CORPORATION
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035

PNC National Bank
Wilmington, DE 19899

62-15/311

No. 55721

CHECK DATE	CHECK AMOUNT
03/01/94	$250.00

PAY *Two Hundred Fifty & no/100 Dollars*

TO THE ORDER OF

FLORIDA DEPT OF ENVIRONMENTAL
PROTECTION, NE DISTRICT
7825 BAY MEADOWS WAY, STE B200
JACKSONVILLE, FL 32256-7577

LFC POWER SYSTEMS CORPORATION

Gary B. Bell

[redacted]

LFC POWER SYSTEMS CORPORATION

VIA FEDERAL EXPRESS

February 25, 1994

Ms. Phebe Scott
District Air Program Administrator
Northeast District
Florida Department of Environmental Regulation
Suite B200
7825 Baymeadows Way
Jacksonville, Florida 32256-7577

RE: LFC No. 47 Corp Annual Operation Report

Dear Ms. Scott:

Enclosed please find the Annual Operations Report for the Madison Biomass plant for 1993 submitted on behalf of LFC No. 47 Corporation.

Should you have any questions please call Rod Mize at (904) 997-0515.

Sincerely,

David J. Brown
Director, Biomass and Geothermal Operations

Enclosure

\JACKSON\COMPLIAN\MADJEF.LTR

cc: Rod Mize (w/enclosure) - Plant Copy
Myron Burr (w/enclosure) - File Copy

2/15/94
Ted Siegman did calculations according to Rod Mize but Ted is out of country. Told him to make note to do next year's MOR where emission factors are obtained. He may get back with me when Ted returns.

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

Florida Department of Environmental Protection

Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DEP Form 17-210.900(4)
Form Title Annual Operating Report
Effective Date February 9, 1993
DEP Application No. _____
(Filled in by DEP)

DIVISION OF AIR RESOURCES MANAGEMENT

ANNUAL OPERATING REPORT FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form 17-210.900(4)
(Note: Shaded fields on form are for DEP use; please leave blank)

REPORT INFORMATION

1. Year of Report	2. Date Report Received	3. Number of Sources in Report
93		ONE

FACILITY INFORMATION (AIR020)

1. Facility APIS ID	2. Facility Status	3. Date of Permanent Facility Shutdown
31GVL400011	A	N/A

4. Facility Owner/Company Name
LFC NO. 47 CORP. MADISON BIOMASS PLT

5. Facility Name/Street Address or Location Description
CR 591, 1.5 MI N OF MADISON

6. Facility City	County
MADISON	40

7. Facility Compliance Tracking Codes	CDS	VOC
	3	0

8. Facility Comment (50 Characters)
WILL BECOME TITLE V AFTER CP MODIFIED - ACTUAL CO > 100 TPY

FACILITY HISTORY INFORMATION (AIR022)

1. Change in Facility Name During Year?	Previous Name	1. Date of Change
NO	BIOMASS	1989

Shaded areas are for DEP use.

Date: 2/25/94

DISTRICT	OFFICE	COUNTY	FACILITY	
APIS ID 31	GVL	40	0011	INPUT

OWNER/CONTACT INFORMATION (AIR021)

1. Individual Owner or Authorized Representative Name
DAVID J. BROWN, DIRECTOR OF BIOMASS OPERATIONS

Organization/Firm
LFC NO. 47 CORP. C/O LFC POWER SYSTEMS CORPORATION

Street Address or P.O. Box
4000 KRUSE WAY PL. BLDG 1

City	State	Zip
LAKE OSWEGO	OR	97035

Telephone
(503) 636-9620

2. Facility Contact for Air Regulatory Matters Name
ROD MIZE

Organization/Firm
LFC NO. 47 CORP. C/O LFC POWER SYSTEMS CORPORATION

Street Address or P.O. Box
ROUTE 3, BOX 40

City	State	Zip
MADISON	FL	32340

Telephone
(904) 973-3180

CERTIFICATION

Statement by Owner or Authorized Representative

I hereby certify that the information given in this report is correct to the best of my knowledge.

Signature

2/25/94
Date

Shaded areas are for DEP use.

Date: 2/25/94

	DISTRICT	OFFICE	COUNTY	FACILITY	SOURCE	
APIS ID	31	GVL	40	0011	01	INPUT

SOURCE OPERATION REPORT - PAGE 1 & 2 (SOURCE REPORT 1 OF 1)
FACILITY NAME: LFC NO. 47 CORP. MADISON BIOMASS PLT

SOURCE INFORMATION (AIR030)

1. Source Description		
BOILER (CARBONACEOUS FUEL) W/MULTICHONE & VENTURI SCRUBBER		
2. DEP Permit or PPS Number	3. Source APIS ID	4. Source Status
AO40179441	31GVL40001101	A
5. Source Startup Date (MM/DD/YY)	6. Source Shutdown Date (DD/MM/YY)	
N/A	N/A	

SOURCE EMISSION POINT/CONTROL INFORMATION (AIR033)

1. Source Emission Point Type
SINGLE POINT
2a. Description of Control Equipment 'a'
MULTICLONE (JOY MFG. CO. MODEL 12-VM-35) SIZE 50-5
2b. Description of Control Equipment 'b'
WET SCRUBBER (PERRY SMITH CO. MODEL 80M)

SOURCE OPERATING SCHEDULE INFORMATION (AIR050)

1. Operated During Year?	2. Average Operation During Year	hour/day	day/week	3. Total Operation During Year (hour/year)	
Y		24	5.4	6,771	
4. Percent Hours of Operation by Season		DJF	MAM	JJA	SON
		15%	30%	21%	34%

Shaded areas are for DEP use.

Date: 2/25/94

	DISTRICT	OFFICE	COUNTY	FACILITY	SOURCE	
APIS ID	31	GVL	40	0011	01	INPUT

SOURCE PROCESS/FUEL INFORMATION (AIR050)

1a. SCC 'a'	2a. Description of Process or Type of Fuel
~~10106901~~ 10100902	EXTCOMB BOILER ELECTRIC GENERATN WOOD/BARK WASTE ~~BARK BOILER~~ WOOD/BARK BOILER

3a. Annual Process or Fuel Usage Rate (SCC Units)
72,189 TONS BURNED

4a. Fuel Average % Sulphur	5a. Fuel Average % Ash	6a. Fuel Heat Content (mmBtu/SCC Units)
N/A	1.5% TO 3%	9 MMBTU PER TON

1b. SCC 'b'	2b. Description of Process or Type of Fuel

3b. Annual Process or Fuel Usage Rate (SCC Units)

4b. Fuel Average % Sulphur	5b. Fuel Average % Ash	6b. Fuel Heat Content (mmBtu/SCC Units)

1c. SCC 'c'	2c. Description of Process or Type of Fuel

3c. Annual Process or Fuel Usage Rate (SCC Units)

4c. Fuel Average % Sulphur	5c. Fuel Average % Ash	6c. Fuel Heat Content (mmBtu/SCC Units)

1d. SCC 'd'	2d. Description of Process or Type of Fuel

3d. Annual Process or Fuel Usage Rate (SCC Units)

4d. Fuel Average % Sulphur	5d. Fuel Average % Ash	6d. Fuel Heat Content (mmBtu/SCC Units)

Shaded areas are for DEP use.

Date: 2/25/94

APIS ID	DISTRICT	OFFICE	COUNTY	FACILITY	SOURCE	INPUT
	31	GVL	40	0011	01	

SOURCE OPERATION REPORT - PAGE 3 & 4 (SOURCE REPORT_____OF_____)
SOURCE DESCRIPTION: BOILER (CARBONACEOUS FUEL) W/MULTICHONE & VENTURI SCRUBBER

SOURCE EMISSIONS INFORMATION (AIR051)

1a. Pollutant 'a' ID	2a. Annual Emissions (ton/year)	3a. Emissions Method Code
VOLATILE ORGANIC COMPOUNDS	50.5	4 3

4a. Emissions Calculation

SEE ATTACHED PAGE

1b. Pollutant 'b' ID	2b. Annual Emissions (ton/year)	3b. Emissions Method Code
SULFUR DIOXIDE	2.7 5.4	4 3

4b. Emissions Calculation

SEE ATTACHED PAGE

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code
CARBON MONOXIDE	163.1	1

4c. Emissions Calculation

SEE ATTACHED PAGE

1d. Pollutant 'd' ID	2d. Annual Emissions (ton/year)	3d. Emissions Method Code
PARTICULATE MATTER - 10 MICRONS OR LESS	17.0	4

4d. Emissions Calculation

SEE ATTACHED PAGE

Shaded areas are for DEP use.

Date: 2/25/94

APIS ID	DISTRICT	OFFICE	COUNTY	FACILITY	SOURCE	INPUT
	31	GVL	40	0011	01	

SOURCE EMISSIONS INFORMATION (Continued)

1e. Pollutant 'e' ID	2e. Annual Emissions (ton/year)	3e. Emissions Method Code
PARTICULATE MATTER - TOTAL	31.5	1

4e. Emissions Calculation

SEE ATTACHED PAGE

1f. Pollutant 'f' ID	2f. Annual Emissions (ton/year)	3f. Emissions Method Code
NITROGEN OXIDES	13.7	4

4f. Emissions Calculation

SEE ATTACHED PAGE

1g. Pollutant 'g' ID	2g. Annual Emissions (ton/year)	3g. Emissions Method Code

4g. Emissions Calculation

1h. Pollutant 'h' ID	2h. Annual Emissions (ton/year)	3h. Emissions Method Code

4h. Emissions Calculation

5. Source Operation Report Comments

Shaded areas are for DEP use.

Date: 2/25/94

SOURCE OPERATING SCHEDULE INFORMATION (AIR050)
4. PERCENT HOURS OF OPERATION BY SEASON.

DJF (DECEMBER '92, JANUARY, FEBRUARY)

DECEMBER ('92) = 72
JANUARY ('93) = 172
FEBRUARY ('93) = 651

TOTAL DJF = 895 HRS 895 / 6,192 = 15%

MAM (MARCH, APRIL, MAY)

MARCH ('93) = 454
APRIL ('93) = 709
MAY ('93) = 720

TOTAL MAM = 1,883 HRS 1,883 / 6,192 = 30%

JJA (JUNE, JULY, AUGUST)

JUNE ('93) = 591
JULY ('93) = 414
AUGUST ('93) = 316

TOTAL JJA = 1,321 HRS 1,321 / 6,192 = 21%

SON (SEPTEMBER, OCTOBER, NOVEMBER)

SEPTEMBER ('93) = 704
OCTOBER ('93) = 683
NOVEMBER ('93) = 706

TOTAL SON = 2,093 HRS 2,093 / 6,192 = 34%

TOTAL FOR DJF, MAM, JJA, AND SON = 6,192 HRS.

SOURCE EMISSIONS INFORMATION (AIR051)
4A-4D. EMISSIONS CALCULATIONS (WITH EMISSION FACTORS)

TONS OF FUEL CONSUMED DURING 1993 = 72,189

4A. VOLATILE ORGANIC COMPOUNDS:

VOC EMISSION FACTOR = 1.4 LBS / TON OF FUEL

$$1.4 \frac{LBS}{TON\ OF\ FUEL} \times 72,189 \frac{TONS\ OF\ FUEL}{YEAR} = 50.5 \frac{TONS\ VOC}{YEAR}$$

4B. SULFUR DIOXIDE:

SO2 EMISSION FACTOR = 0.15 LBS / TON OF FUEL

Table 1.6-2 has 0.075

$$0.075 \frac{LBS}{TON\ OF\ FUEL} \times 72,189 \frac{TONS\ OF\ FUEL}{YEAR} = 2.7 \frac{TONS\ SO2}{YEAR}$$

4C. CARBON MONOXIDE:

CO EMISSION FACTOR = 4.52 LBS / TON OF FUEL

$$4.52 \frac{LBS}{TON\ OF\ FUEL} \times 72,189 \frac{TONS\ OF\ FUEL}{YEAR} = 163.1 \frac{TONS\ CO}{YEAR}$$

NOTE: CARBON MONOXIDE EMISSION FACTOR OBTAINED FROM EMISSIONS TEST PERFORMED BY PENSACOLA P.O.C., INC. ON OCTOBER 22, 1993.

4D. PARTICULATE MATTER - 10 MICRONS OR LESS:

10 MICRON EMISSION FACTOR = 0.47 LBS / TON OF FUEL

$$0.47 \frac{LBS}{TON\ OF\ FUEL} \times 72,189 \frac{TONS\ OF\ FUEL}{YEAR} = 17.0 \frac{TONS\ OF\ 10\ MICRON}{YEAR}$$

Table 1.6-9

SOURCE EMISSIONS INFORMATION (AIR051)
4E. EMISSIONS CALCULATION

DATA FROM INDEPENDENT LABORATORY EMISSIONS TEST

PREFORMED BY ENVIRONMENTAL ENGINEERING DIVISION/PSI

DATE OF TEST: MARCH 25, 1993

PARTICULATE EMISSION RATE

RUN 1 = 10.3 LB/HR
RUN 2 = 16.7 LB/HR
RUN 3 = 18.4 LB/HR

AVG RUN = 15.1 LB/HR

PLANT PRODUCTION AT TIME OF TEST = 7.2 MW

1993 POWER PRODUCTION (NET MWH) = 30,026 MWH

$$15.1 \frac{LB}{HR} \times \frac{1}{7.2\ MW} = 2.10 \frac{LB}{MWh}$$

$$30,026 \frac{MWh}{YEAR} \times 2.10 \frac{LB}{MWh} \times \frac{1\ TON}{2,000\ LBS} = 31.5 \frac{TONS}{YEAR}$$

SOURCE EMISSIONS INFORMATION (AIR051)
4F. EMISSIONS CALCULATIONS (WITH EMISSION FACTORS)

TONS OF FUEL CONSUMED DURING 1993 = 72,189

4F. NITROGEN OXIDES:

NOX EMISSION FACTOR = 0.38 LBS / TON OF FUEL

$$0.38 \frac{LBS}{TON\ OF\ FUEL} \times 72,189 \frac{TONS\ OF\ FUEL}{YEAR} = 13.7 \frac{TONS\ NOX}{YEAR}$$

SOURCE EMISSIONS INFORMATION (AIR051)
4A. EMISSIONS CALCULATION

DATA FROM INDEPENDENT LABORATORY EMISSIONS TEST

PREFORMED BY PENSACOLA P.O.C., INC.

SEPTEMBER 22, 1993

DATE OF TEST: 14 & 15 SEPTEMBER 1993

PARTICULATE EMISSION RATE

RUN 1 = 21.7 LB/HR
RUN 2 = 26.2 LB/HR
RUN 3 = 21.1 LB/HR

AVG RUN = 23.0 LB/HR

PLANT PRODUCTION AT TIME OF TEST = 7.1 MW

1993 POWER PRODUCTION (NET MWH) = 24,351 MWH

$$23.0\frac{LB}{HR} \times \frac{1}{7.1\ MW} = 3.24\frac{LB}{MWh}$$

$$24{,}351\frac{MWh}{YEAR} \times 3.24\frac{LB}{MWh} \times \frac{1\ TON}{2{,}000\ LBS} = 39.5\frac{TONS}{YEAR}$$

?

Marcello Plant

SOURCE OPERATING SCHEDULE INFORMATION (AIR050)
4. PERCENT HOURS OF OPERATION BY SEASON.

DJF (DECEMBER '92, JANUARY, FEBRUARY)

DECEMBER ('92) = 48
JANUARY ('93) = 486
FEBRUARY ('93) = 5

TOTAL DJF = 539 HRS 539 / 5,247 = 10%

MAM (MARCH, APRIL, MAY)

MARCH ('93) = 261
APRIL ('93) = 648
MAY ('93) = 144

TOTAL MAM = 1,053 HRS 1,053 / 5,247 = 20%

JJA (JUNE, JULY, AUGUST)

JUNE ('93) = 564
JULY ('93) = 723
AUGUST ('93) = 540

TOTAL JJA = 1,827 HRS 1,827 / 5,247 = 35%

SON (SEPTEMBER, OCTOBER, NOVEMBER)

SEPTEMBER ('93) = 687
OCTOBER ('93) = 447
NOVEMBER ('93) = 694

TOTAL SON = 1,828 HRS 1,828 / 5,247 = 35%

TOTAL FOR DJF, MAM, JJA, AND SON = 5,247 HRS.

Monticello

Florida Department of
Environmental Protection

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

February 24, 1994

CERTIFIED MAIL - RETURN RECEIPT
P 520 288 086

Mr. T.K. Sieckman
LFC Power Systems Corporation
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, Oregon 97035

RE: X Returned Application and drawings

Dear Mr. Sieckman:

This is to acknowledge receipt of your Application to Modifiy a Air Pollution Source Type Carbonaceous Fuel Fired Boiler.

The above item(s) are being returned for the following reason(s):

____ Insufficient fee or X no fee was submitted. Correct fee is $**4500.00**. (Effective July 11, 1993, the Department amended its permit fee rule, Florida Administrative Code Rule FAC 17-4.050.)

____ No Fee is required. (Application will be processed.)

____ A _____ application is required (See attached).

____ Other: _____

Please return application and check to the above listed address within 10 days of receipt of this letter. The permit application processing time requirements of Section 120.60(2) and 403.0876, F.S., will not begin until the Department receives the correct application and correct fee.

If you have any questions regarding your application, please contact **Johnny Cole** at (904)**448-4310 ext. 378**.

Sincerely,

Ollie Henderson

Ollie Henderson
Data Processing

OH/bkd
Enclosure(s)
cc: Johnny Cole

Madison Co. AP
LFC
Carb. Boiler
mod. ACP w/o fee rec'd 02/23

02-23-94 p.m.
1. OP is syn minor at 99 TPY

2. At new rate TPY = 155.40

~ 2:40 called PL about fee; line busy; talked w/ WH about fee & PSD; he will check & call.
Is fee based on total or increase.
~ 3:00 WH said if not on list of 28, no PSD review. Base fee on increase
155.40 - 99 = 56.40; so fee is $4500
Took ACP to DE; DE will request fee.
02/23 pm EM from WH.

mod. ACP w/ fee (rec'd 4/1) review

04/18
3. Calc UTM. ACP error for UTM-E.
4. Authorization ltr rec'd 9/93
5. Emissions calc's (over)
6. AAQ review; E_{AL} will not cause an AAQ problem (over)

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

Date: 23-Feb-1994 04:24pm EST
From: Willard Hanks TAL
HANKS_W@A1@DER
Dept: Air Resources Management
Tel No: 488-1344
SUNCOM:

TO: Johnny Cole JAX (COLE_J @ A1 @ JAX1)

CC: Preston Lewis TAL (LEWIS_P@A1@DER)

Subject: LFC No. 47 Corporation

LFC No. 47 in Madison is a 136 MMBtu/hr carbonaceous fuel fired boiler that generates electricity. APIS does not list fossil fuel being burned by this boiler. It is allowed to emit 99 TPY PM.

Carbonaceous fuel fired boilers are not on the list of 28. Therefore, it is not subject to PSD until emissions exceed 250 TPY.

The company wants to increase emissions to about 155.4 TPY PM by burning more carbonaceous fuel. This does not trigger PSD.

If it is a modification (they have to make a capital investment in equipment to burn the additional fuel) it will be subject to NSPS, Subpart Db.

If they can burn the higher rate of fuel without installing or modifying the existing equipment, it is not a modification by NSPS definitions and will not be subject to the NSPS.

The application fee for a new air construction permit that would allow a 56.4 TPY increase in PM is $4,500.

Call me if you have additional questions on this.

7-14-94

Post-it™ brand fax transmittal memo 7671	# of pages ▸
To A. Allen	From J. Cole
Co.	Co.
Dept.	Phone #
Fax # 8-693-8417	Fax #

Florida Department of Environmental Protection

Lawton Chiles
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Dennis K. Kirchner
Secretary

NORTHEAST DISTRICT RECEIVED FEB 23 1994

NORTHEAST DISTRICT RECEIVED FEB 23 1994 DEP-JACKSONVILLE

PERMIT DATA FORM

Project Source Name: Carb. Boiler

Type Code: AC Subcode: IC Check if: ___ GP ___ EXEMPT ___ TITLE V

Permit Processor's Initial: [signature]

Data Entry Operator's Initial: ____

Correct Fee: 4500

Amount Received: -0-

Amount Refund: NA

Comments:

NEDJ-JC

PATS #_____ RECEIPT DATE _____ RECEIPT #_____

___ Insufficient fee or ✓ no fee was submitted. Correct fee is $4500.00. (Effective July 11, 1993, the Department amended its permit fee rule, Florida Administrative Code Rule 17-4.050.)

___ No Fee is required. (Application will be processed.)

___ A _____ application is required (See attached).

___ Other: _____

_____

_____

_____

Administration 448-4300
Air 448-4310
Waste Management 448-4320

Water Facilities 448-4330
Water Management 448-4340
FAX 448-4366

LFC POWER SYSTEMS CORPORATION

February 18, 1994

Florida Department of
Environmental Protection
Northeast District - Air Section
Suite B200
7825 Bay Meadows Way
Jacksonville, Florida 32256-7577

Attention: Mr. Robert Leetch
District Air Program Administrator

SUBJECT: REQUEST FOR AIR PERMIT MODIFICATION
Permitee: LFC No. 47 Corporation
Source Location: CR-591 Madison, Florida
I.D. Number: 31 GVL 40001101
Permit Number: A040-179441

Dear Mr. Leetch:

Enclosed for your review and approval is LFC's Air Permit Modification Application.

If further information is needed, please contact me at 503-697-0262, or David Brown, Director of Biomass Operations at 503-697-1736.

Sincerely,

T. K. Sieckman

T. K. Sieckman
Project Manager

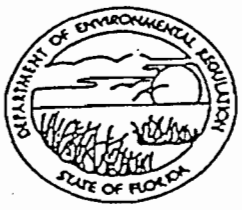
TKS370.Let:jsm

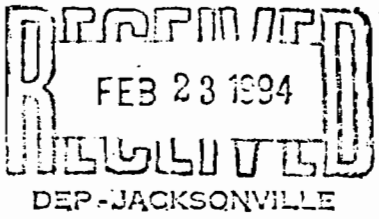
cc: D. Brown
B. Zegel

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION NORTHEAST DISTRICT





APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Carbonaceous Fuel Fired Boiler [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: LFC No. 47 Corporation COUNTY: Madison

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) Carbonaceous Fuel Fired Boiler with Multiclone and Venturi Scrubber

SOURCE LOCATION: Street CR-591 City Madison

UTM: East (17)240.1 North 3376.5

Latitude 30 ° 30 ' 00 "N Longitude 83 ° 23 ' 45 "W

APPLICANT NAME AND TITLE: David J. Brown, Director of Biomass Operation

APPLICANT ADDRESS: 4000 Kruse Way Place, Bldg. 1, Lake Oswego, OR 97035

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of LFC No. 47 Corporation

I certify that the statements made in this application for a Modified 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: David J. Brown

David J. Brown, Director of Biomass Operations
Name and Title (Please Type)

Date: 2/17/94 Telephone No. (503) 697-1736

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)

AIR041 31GVL40001101 CO 101393 AIR PROGRAM INFORMATION SYSTEM 11/19/93
SOURCE TEST RECORD 14:29:04

FACIL: OWN: LFC NO. 47 CORP. N/L: CR 591, 1.5 MI N LAST UPDATED: 11/19/93
SRC: 001 MAJOR FAC: N CITY: MADISON STATUS: A = ACTIVE
SOURC DESC: BOILER (CARBONACEOUS FUEL) W/MULTICHONE & VENTURI SCRUBBER

PERMIT/PPS: A040-179441 MAJOR SRC: N STATUS: A = ACTIVE
NSPS: ... NESHAP: ... 40CFR70: ... PSD: ... NAA/NSR: ... RACT: ...

CURRENT TEST DATE: 10 / 13 / 93 NEXT TEST DATE: __ / __ / __
TEAM NAME: PENSACOLA POC
MAX PROCESS RATE: ..... ACTUAL: 0000011 UNITS: TN 70/30 30%H20
MAX PRODUCTION RATE: ..... ACTUAL: _____ UNITS: _____
POLLUTANT ID: CO = ... TEST PASS? ? (Y/N/I)
PERMIT ALLOWABLE EMIS: ..... UNITS: .....
TEST ALLOW EMIS: 00041 . 100000 TEST ACT EMIS: 00053 . 100000
UNITS: _____ AUDIT TYPE: 3 = TYPE III-STACK TEST REVIEW
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 029 . 19 SIGN: +
COMMENTS: DEP EST 350 370 410 PPM 4.7 - 5.3 LB CO/TON 150-200TPY CO
80KPPH STEAM 685F 415PSIG 4.5"H20 SCRBBR 600GPM 100F11GKACFM
7-7.4MW 70/30 CHIP/SAWDUST 13-15T/HR 7950BTU/LB 80KPPH STEAM
MORE SOURCE TESTS ON FILE? N

EMISSIONS TEST

FOR

LFC POWER SYSTEMS CORPORATION

Madison, FL

Date: 22 October 1993

Date of Test: 13 October 1993

Type of Test: EPA Method 1-4, & 10

Permit Number: A040-179441

I. D. Number: 31GVL40001101

Average Production Rate: approx. 80,000 lb/hr steam load

Average CO Emissions: 4.52 #/ton of fuel burned

Tested by:

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

Phone: 904 456-4406

Name: LFC Power Systems Corporation
Source: Boiler Scrubber
Location: Madison, FL
Test Date: 13 October 1993

TABLE OF CONTENTS

Test Description(s)

TEST DESCRIPTION

Pensacola P.O.C., Inc. performed CO emissions test on the carbonaceous-fuel burning steam boiler for LFC Power Systems Corporation, located in Madison, FL on 13 October 1993.

EPA Method 1-4 test was conducted simultaneously with the CO test in order to obtain volumetric flows. Readings were taken every 2.5 minutes to correspond with the Method 1-4 test.

CO test was conducted using Horiba 2000 NDIR analyzer.

Tests were conducted by K. C. Sviglin, Barbara Sviglin and Kevin Peavy of Pensacola P.O.C., Inc. Test report prepared by Barbara Sviglin.

Testing Verification and Production Data

PENSACOLA P.O.C., INC.

109 South Second St., Pensacola, FL 32507 U.S.A. 904 456-4406

ENVIRONMENTAL TESTING AND TROUBLESHOOTING

October 22, 1993

RE: **LFC Power Systems Corporation**
Madison, FL

To Whom It May Concern:

On 13 October 1993, Pensacola P.O.C., Inc. conducted the following tests on the scrubber located at subject site:

Volumetric Flow (EPA Methods 1-4)
CO Test (EPA Method 10)

To the best of my knowledge, all applicable field and analytical procedures comply with Florida Department of Environmental Protection requirements, and all test data and plant operating data furnished by us are true and correct.

Sincerely,

Barbara Sviglin

Barbara Sviglin (Schwiglin)

LFC MADISON, FLORIDA PLANT
STACK/BURN RATE TEST
OCTOBER 13, 1993

PROCESS DESCRIPTION

The plant uses a Bigelow (size KVS-3826) Carbonaceous -Fuel Burning Boiler with a maximum rated output of 7.5 megawatts. During each test run, the boiler was producing 7.0 to 7.4 MW.

The Fuel consisted of 70% Wood chips and 30% Sawdust. The firing rate was approximately 13 to 15 tons / hour. The estimated heat value of the fuel was 7,950 BTU/lb. average.

The steam load was above 80,000 lb/hr during each test run. The steam temperature was 680 to 690 degrees F and the steam pressure was 415 PSI.

Particulates are controlled by a Multiclone (Joy Manufacturing Company Model 12-VM-36, Size 50-5) and a Wet Venturi Scrubber (Perry Smith Co. Model 80M) operated at 4.5 to 5.5 inch pressure drop across the scrubber. The inlet water temperature was approximately 100 degrees F. The inlet water flow was 600 gpm.

70% Bark chips

30% Sawdust

CO Test

October 21, 1993

LFC Power Systems
Madison, FL
as tested 13 October 1993

CO in Pounds/Hour

# of CO/Ton of fuel = [(ppm volume x DSCFM) / (TPH x 379 x 10^6)] x MW x 60

where: ppm volume = average recorded ppm during run
DSCFM = average dry standard cubic ft./min. during run
MW of CO = 12 + 16 = 28
TPH of fuel burned = 13.7

Run 1

[(350 ppm x 37,468) / (13.7 x 379 x 10^6)] x 28 x 60 =

4.24 # of CO/ton of fuel burned

Run 2

[(370 ppm x 37,256) / (13.7 x 379 x 10^6)] x 28 x 60 =

4.46 # of CO/ton of fuel burned

Run 3

[(410 ppm x 36,532) / (13.7 x 379 x 10^6)] x 28 x 60 =

4.85 # of CO/ton of fuel burned

Average

(4.24 + 4.46 + 4.85) / 3 = **4.52 # of CO/ton of fuel burned**

109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

C O TEST

Date: 10/10/93

Client: LFC POWER SYSTEMS

Source: BOILER

Instrument: HORIBA 2,000 NDIR

I. Set up CO Monitor, Voltmeter, gases, control box etc. Cut on gases, and set pressure regulators to 4 PSIG and flow to 1-1.5 lpm for each gas.

NOTE: Remember adjust pressure regulator only when gas is flowing.

Cut on CO Monitor, switch to range 1 and allow to warm up for 60 minutes.

Calculate voltage for span gas #3:
(Span Gas #3 ppm / range ppm) x output (m)VDC =

(2,030 / 2,500) x 1.0 V = 0.812 (m)VDC

Introduce N2 to CO Monitor by switching 4-way valve to N2. Allow voltmeter to go to 0.000 (+/- 0.02). If voltmeter does not read correctly, then unlock "0" pod and adjust.

Introduce Span Gas #3 by switching 4-way valve to span gas #3 position. Unlock span pod and adjust until voltmeter reads calculated span gas #3 volts (+/- 0.02).

Repeat above two steps several times until voltmeter readings stabilize.

Lock "0" and "span" pods.

II. Introduce N2 gas, record voltage. 0.000

Introduce Span Gas #3 (2,030 ppm), record voltage. 0.793

Introduce N2 gas, record voltage. 0.000

Introduce Span Gas #2 (1,242 ppm), record voltage. 0.485

Introduce N2 gas, record voltage. 0.000

Introduce Span Gas #1 (641 ppm), record voltage. 0.250

Introduce N2 gas, record voltage. 0.001

Calculate av N2 voltage. 0.000

III. Take data from II and plot curve. (attached)

IV. Measure and record 90% span times:

A. Span Gas #3 (2030 ppm)

90% Rise Voltage (RV)

0.000 + 0.9 (0.793 - 0.000) = 0.714 volts

90% Fall Voltage (FV)

0.793 - 0.9 (0.793 - 0.000) = 0.079 volts

	Beginning Voltage	90% Rise or Fall Voltage	Time (Seconds)
1. N2	0.001		
2. Gas #3		RV 0.714	2.3
"	0.793		
3. N2		FV 0.079	2.1

B. Span Gas #2 (1242 ppm)

90% Rise Voltage (RV)

0.000 + 0.9 (0.485 - 0.010) = 0.436 volts

90% Fall Voltage (FV)

0.485 - 0.9 (0.485 - 0.000) = 0.049 volts

	Beginning Voltage	90% Rise or Fall Voltage	Time (Seconds)
1. N2	0.001		
2. Gas #2		RV 0.436	2.0
"	0.485		
3. N2		FV 0.049	2.0

C. Span Gas #1 (641 ppm)

90% Rise Voltage (RV)

0.000 + 0.9 (0.250 - 0.000) = 0.225 volts

90% Fall Voltage (FV)

0.250 - 0.9 (0.250 - 0.000) = 0.025 volts

	Beginning Voltage	90% Rise or Fall Voltage	Time (Seconds)
1. N2	0.001		
2. Gas #1		RV 0.225	2.0
"	0.250		
3. N2		FV 0.025	1.8

HORIBA PIR 2000 CO MONITOR CALIBRATION

DATE: 10/10/93

TECHNICIAN: KCS

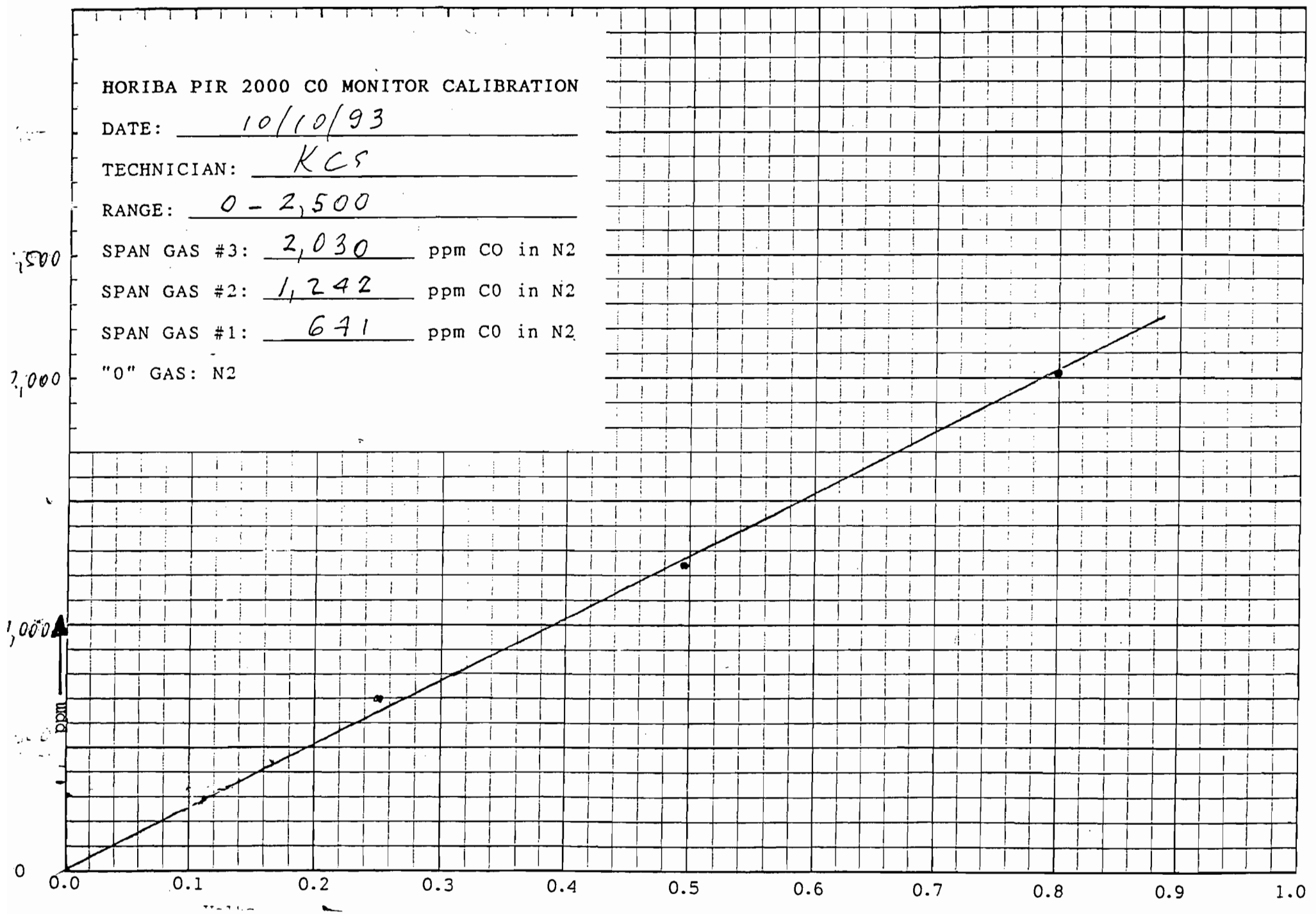
RANGE: 0 - 2,500

SPAN GAS #3: 2,030 ppm CO in N2

SPAN GAS #2: 1,242 ppm CO in N2

SPAN GAS #1: 641 ppm CO in N2

"0" GAS: N2



PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4495

C O TEST

Date: 10-13-93 Technician KCS

Client: LFC Power Systems Corp

Source: Baker Scrubber exhaust

Instrument: Horiba 5000 MDIR

Run No. 1

Train Leak Test:

Initial Pressure: 12 " WG

Duration: 60 seconds

Final Pressure: 12 " WG

Pretest Calibration Check:

Range: 0 - 2,500 Calibration Gas: 2,030 ppm

	"0" Gas Volts	Span Gas Volts
1.	-0.020	0.79
2.	-0.020	0.79
3.	-0.020	0.79
Aver.	0.00	0.77

Initial Sample: _____ ppm
(If other than calibrated range, introduce span gas for the range required.)

Span Gas: 2030 ppm

Volts = Span Gas ppm / range ppm) x (m)VDC =

(2030 / 2500) x 1 = 0.81 (m)VDC

Actual Instrument Reading: 0.79 (m)VDC

Instrument Range (Circle One): 0-500 0-1,000 (0-2,500) ppm

Test Start Time: 10:16

CO

RUN 1

No.	Time	Volts	O_2	D.P.
1	10:18	0.12	–	
2		0.10		
3		0.18		
4		0.11		
5		0.15		
6		0.15		
7	2.5 min	0.13		
8		0.15		
9		0.14		
10		0.14		
11		0.14		
12		0.14		
13		0.15		
14		0.13		
15		0.13		
16		0.11		
17		0.11		
18		0.09		
19		0.14		
20		0.13		
21		0.12		
22		0.14		
23		0.12		
24		0.17		
25		0.21		
26		0.15		
27		0.13		

568/27 = 0.136 = 350 ppm

RUN 1 CO

Posttest Calibration Check:

Range: 0-2500 Calibration Gas: 2030 ppm

	"0" Gas Volts	Span Gas Volts
1.	0.00	0.78
2.	0.00	0.78
3.	0.00	0.78
Aver.	0.00	0.78

"0" Drift = [(VDC_{post} - VDC_{pre}) / range VDC] x 100

= [(0.00 - 0.00) / 1] x 100 = 0 %

Span Gas #3 Drift = [(VDC_{post} - VDC_{pre}) / range VDC] x 100

= [(0.78 - 0.79) / 1] x 100 = 1 %

Corrections for CO_2: N/A

CO_2 = _____ % (Orsat)

$C_{CO\ Stack}$ = $C_{CO\ NDIR}$ x [1 - (%CO_2 / 100)]

= _____ ppm [1 -(_____ / 100)] = _____ ppm

Corrections for 7% O_2:

$C_{CO\ Actual}$ = $C_{CO\ Stack}$ x [(20.946 - 7% O_2) / (20.046 - _____ %)

= _____ ppm x (_____ / _____ = _____ PPM

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

C O TEST

Date: 10/13/93 Technician KCS

Client: LFC Power Systems Corp. Madison

Source: Boiler Scrubber exhaust

Instrument: Horiba 2000 NDIR

Run No. 2

Train Leak Test:

Initial Pressure: _____ " WG

Duration: _____ seconds

Final Pressure: _____ " WG

Pretest Calibration Check:

Range: 0-2,500 Calibration Gas: 2,030 ppm

	"0" Gas Volts	Span Gas Volts
1.	-0.00	0.79
2.	0.00	0.79
3.	0.00	0.79
Aver.	0.00	0.79

Initial Sample: _____ ppm
(If other than calibrated range, introduce span gas for the range required.)

Span Gas: _____ ppm

Volts = Span Gas ppm / range ppm) x (m)VDC =

(2030 / 2500) x 1 = 0.81 (m)VDC

Actual Instrument Reading: 0.79 (m)VDC

Instrument Range (Circle One): 0-500 0-1,000 (0-2,500) ppm

Test Start Time: 12:31

RUN 2

CV

No.	Time	Volts	O_2	D.P.
2	12:39	0.12		29.0
		0.14		
		0.14		
		0.12		
		0.15		
		0.17		
		0.14		
		0.18		
		0.13		
	2.5	0.15		
		0.14		
		0.12		
		0.19		
		0.12		
		0.18		
		0.16		
		0.15		
		0.13		
		0.14		
		0.13		
21		0.12		
22		0.11		
		0.12		
		0.14		
25		0.17		
26		0.12		

3.66/26 = 0.1415 - 370 ppm

Posttest Calibration Check: RUN 2

Range: 0-2,500 Calibration Gas: 2,030 ppm

	"0" Gas Volts	Span Gas Volts
1.	-0.00	0.79
2.	0.00	0.80
3.	0.00	0.79
Aver.	0.00	0.79

"0" Drift = $[(VDC_{post} - VDC_{pre}) / \text{range VDC}] \times 100$

= [(0.00 - 0.00) / 1] x 100 = 0 %

Span Gas #3 Drift = $[(VDC_{post} - VDC_{pre}) / \text{range VDC}] \times 100$

= [(0.79 - 0.79) / 1] x 100 = 0 %

Corrections for CO_2: N/A

CO_2 = _____ % (Orsat)

$C_{CO\ Stack} = C_{CO\ NDIR} \times [1 - (\%CO_2 / 100)]$

= _____ ppm [1 -(_____ / 100)] = _____ ppm

Corrections for 7% O_2: N/A

$C_{CO\ Actual} = C_{CO\ Stack} \times [(20.946 - 7\%\ O_2) / (20.046 - \_\_\_\_\ \%)$

= _____ ppm x (_____ / _____ = _____ PPM

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

C O TEST

Date: 10/13/93 Technician KCS

Client: LFC Power Systems Corp. Madison, FL

Source: Boiler scrubber exhaust

Instrument: Horiba 2000 NDIR

Run No. 3

Train Leak Test:

Initial Pressure: _____ " WG

Duration: _____ seconds

Final Pressure: _____ " WG

Pretest Calibration Check:

Range: 0-2,500 Calibration Gas: 2030 ppm

	"0" Gas Volts	Span Gas Volts
1.	0.00	0.79
2.	0.00	0.80
3.	0.00	0.79
Aver.	0.00	0.79

Initial Sample: _____ ppm
(If other than calibrated range, introduce span gas for the range required.)

Span Gas: 2030 ppm

Volts = Span Gas ppm / range ppm) x (m)VDC =

(2030 / 2500) x 1 = 0.81 (m)VDC

Actual Instrument Reading: 0.79 (m)VDC

Instrument Range (Circle One): 0-500 0-1,000 (0-2,500) ppm

Test Start Time: 3:19

CO

RUN 3

No.	Time	Volts	O_2	D.P.
3	3:19	0.18		
		0.12		
		0.13		
		0.13		
		0.14		
		0.18		
		0.16		
	2.8	0.19		
		0.17		
		0.18		
		0.15		
		0.12		
		0.15		
		0.12		
		0.15		
		0.15		
		0.20		
		0.17		
		0.15		
		0.12		
		0.18		
		0.21		
		0.19		
		0.23		
		0.20		
		0.14		
		0.11		

1.5 =

1.32/27 = 0.16 11% PPM

Posttest Calibration Check:

Range: 0-2,500 Calibration Gas: 2,030 ppm

CO RUN 3

	"0" Gas Volts	Span Gas Volts
1.	0.00	0.80
2.	0.00	0.80
3.	0.00	0.80
Aver.	0.00	0.80

"0" Drift = [(VDC_{post} - VDC_{pre}) / range VDC] x 100

= [(0.00 - 0.00) / 1] x 100 = 0 %

Span Gas #3 Drift = [(VDC_{post} - VDC_{pre}) / range VDC] x 100

= [(0.80 - 0.79) / 1] x 100 = 1 %

Corrections for CO_2: N/A

CO_2 = _____ % (Orsat)

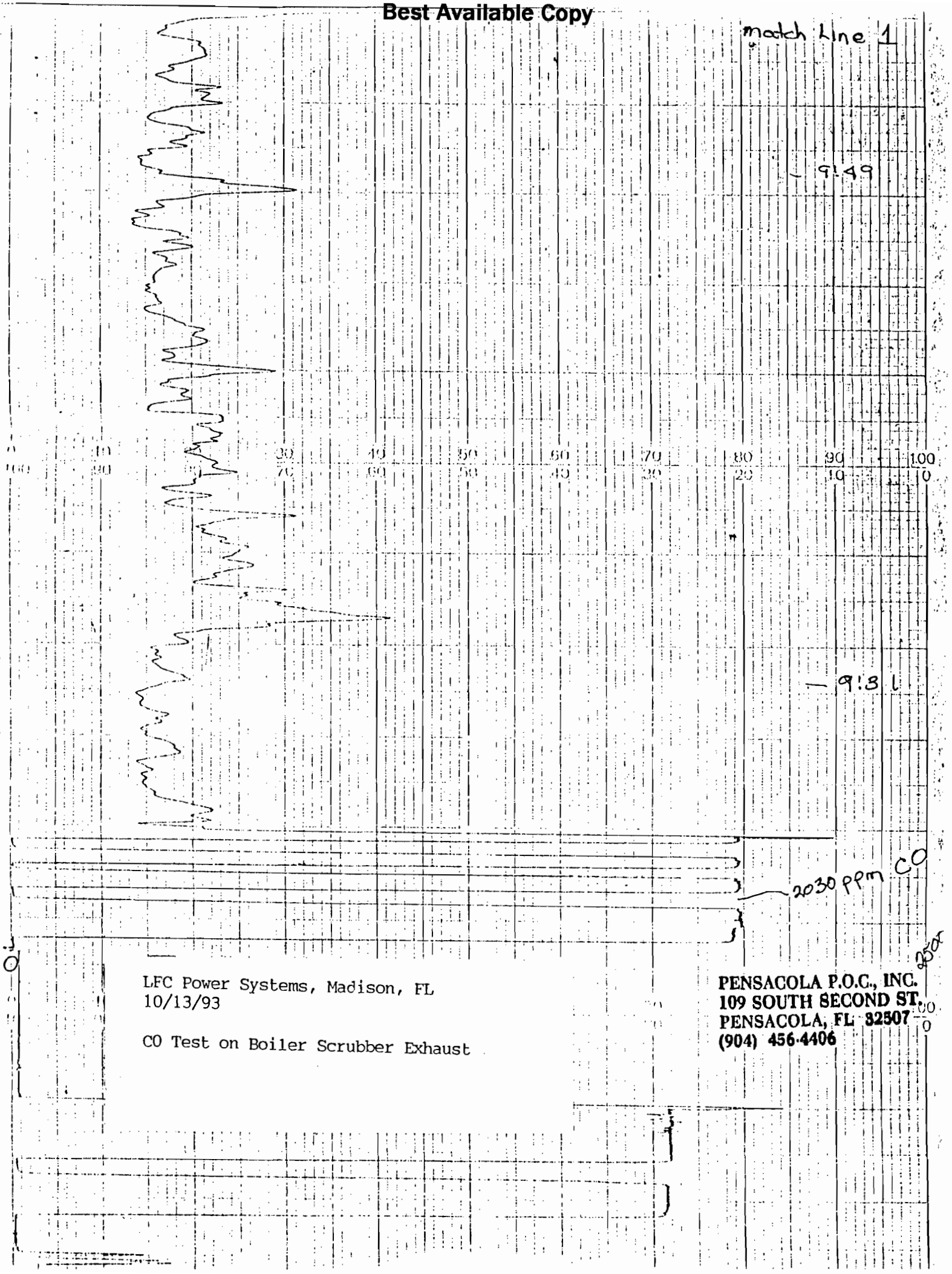
$C_{CO\ Stack}$ = $C_{CO\ NDIR}$ x [1 - (%CO_2 / 100)]

= _____ ppm [1 -(_____ / 100)] = _____ ppm

Corrections for 7% O_2: N/A

$C_{CO\ Actual}$ = $C_{CO\ Stack}$ x [(20.946 - 7% O_2) / (20.046 - _____ %)

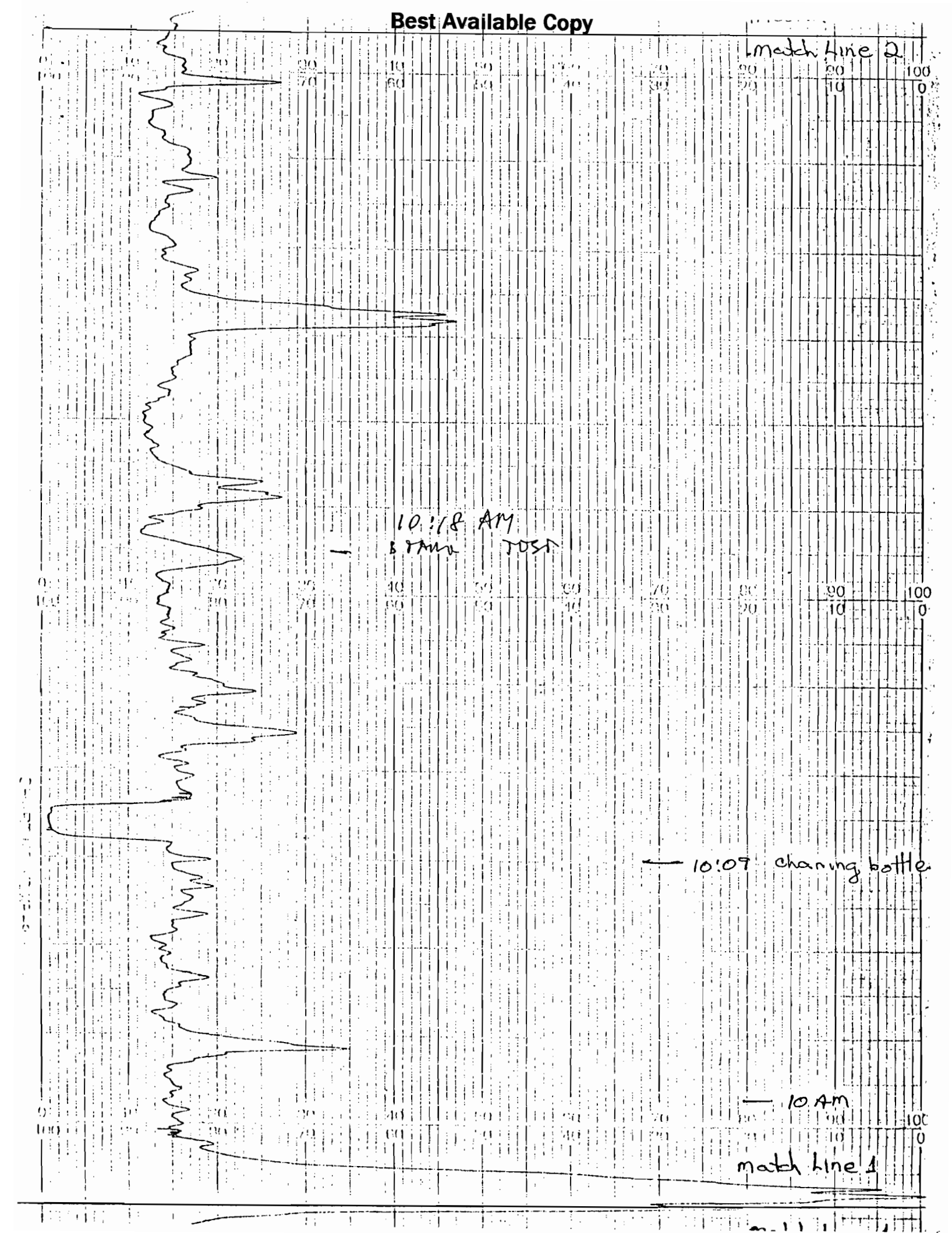
= _____ ppm x (_____ / _____ = _____ PPM



LFC Power Systems, Madison, FL
10/13/93

CO Test on Boiler Scrubber Exhaust

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406



match line 3

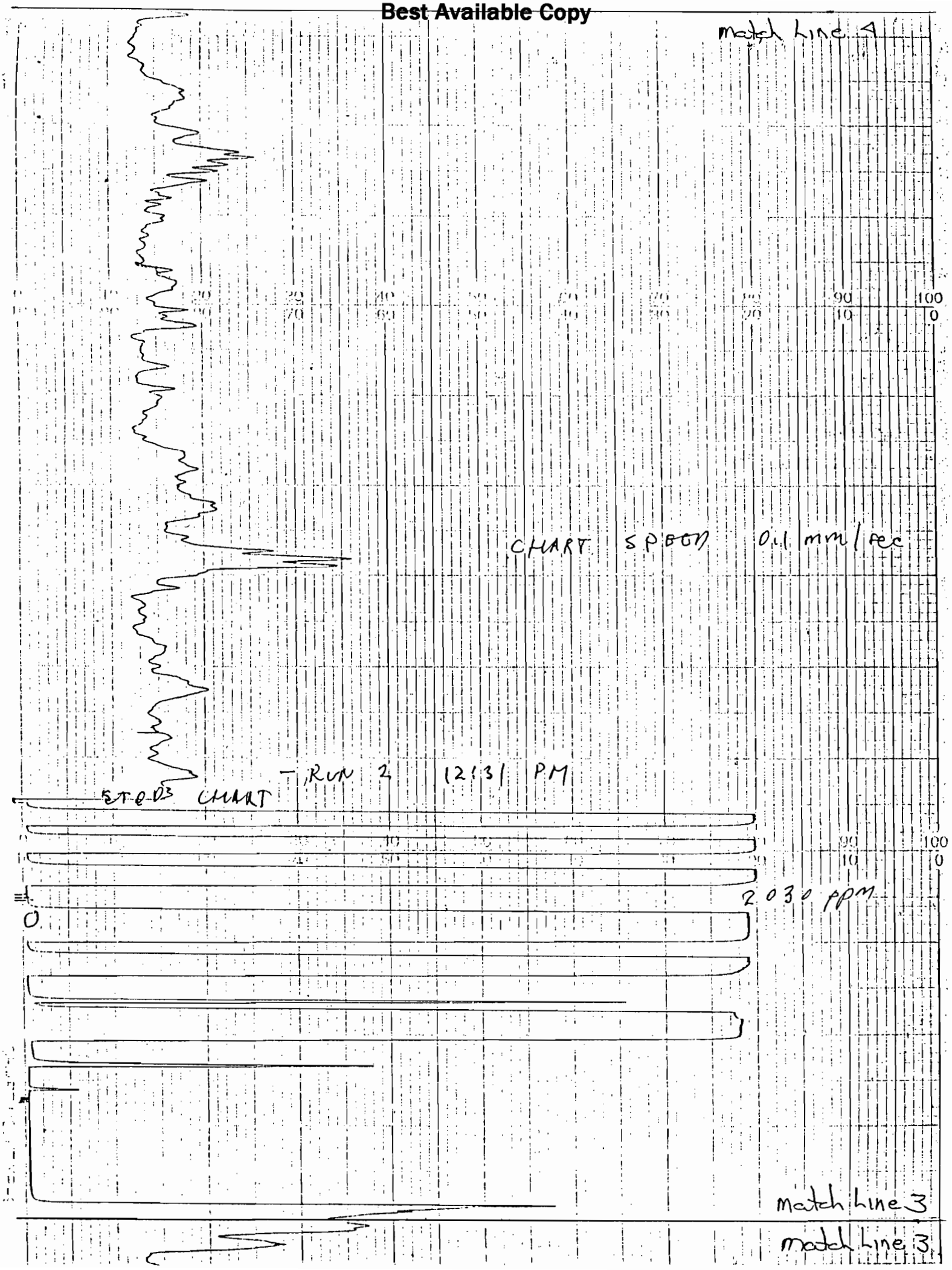
END RUN 1

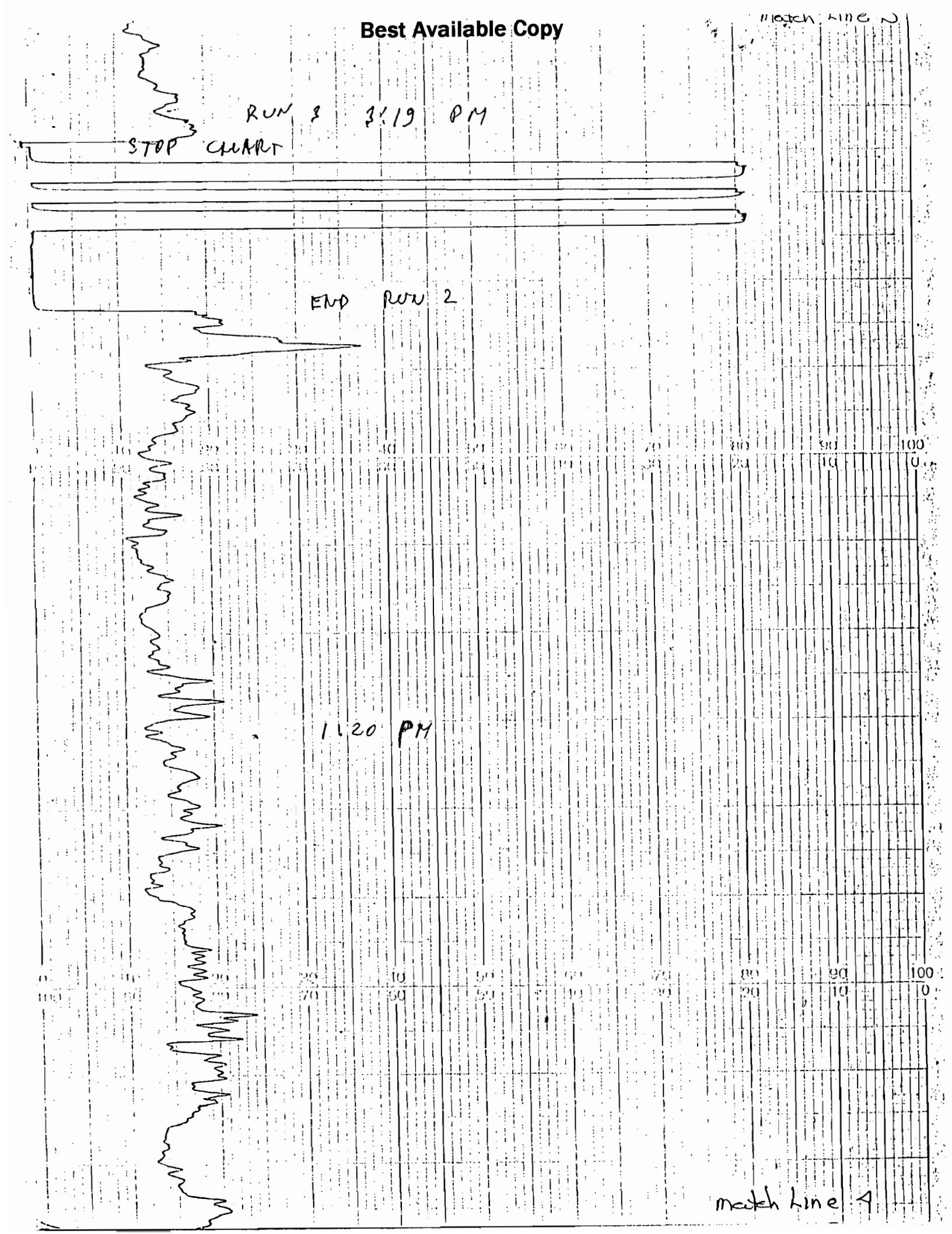
30 40 50 60 70 80 90 100
20 10 0

30 40 50 60 70 80 90 100
20 10 0

match line 2

match line 2

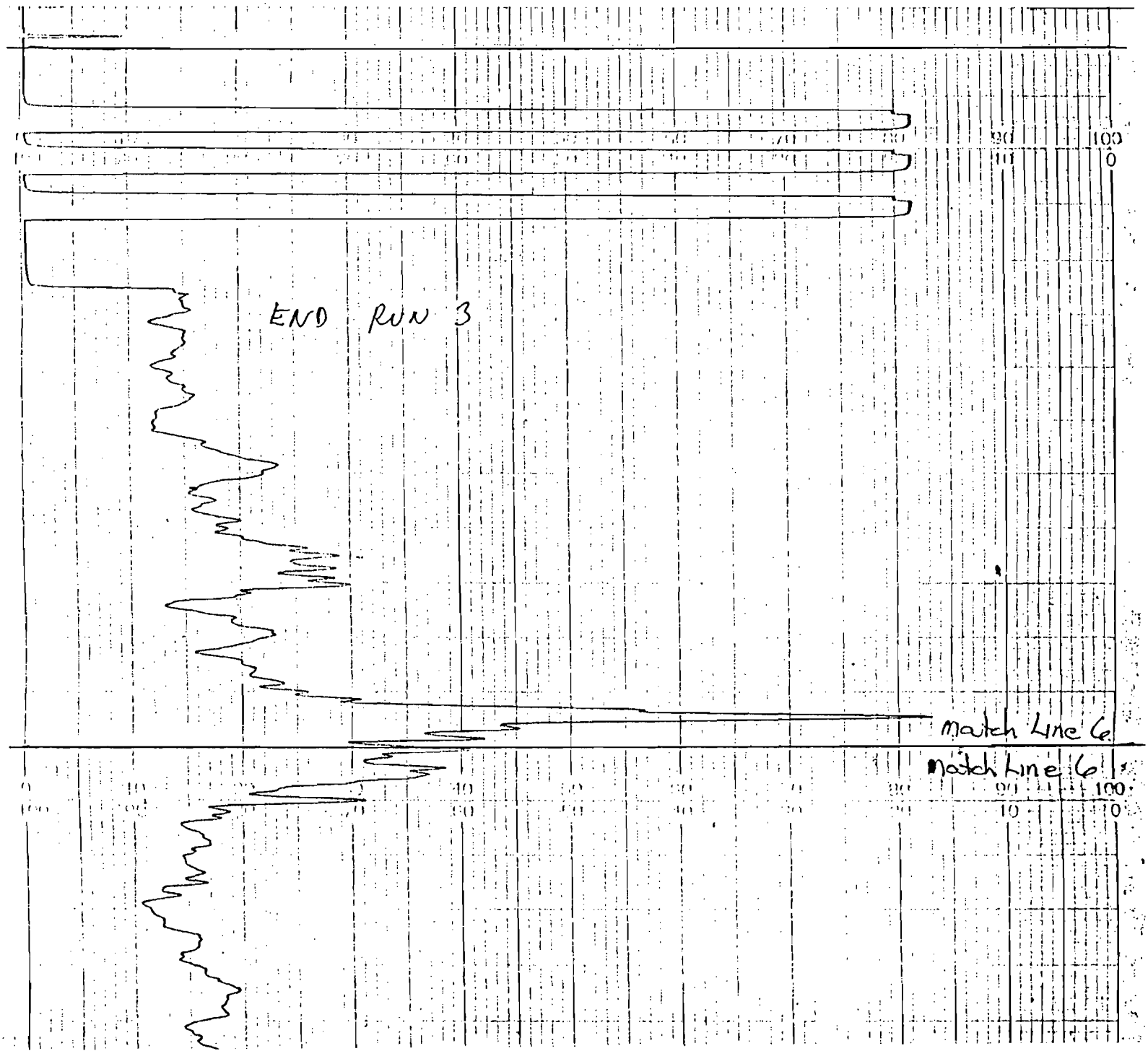




match Line 6

match Line 5

match Line 5



Summaries

PENSACOLA P.O.C. INC.
109 S. SECOND STREET
PENSACOLA, FLORIDA 32507

(904) 456-4406

CLIENT'S NAME: LFC POWER SYSTEMS

LOCATION: MADISON, FL

TEST DATE: 13 OCTOBER 1993

INPUT DATA SUMMARY
RUN NUMBER: 1

1)	AREA OF STACK (AS) IN SF:	26.7
2)	NOZZLE SIZE IN INCHES:	.311
3)	AREA OF NOZZLE (AN) IN SF:	5.275163E-04
4)	DRY GAS METER CORRECTION FACTOR (YM):	1
5)	NUMBER OF PORTHOLES:	2
6)	NUMBER OF TRAVERSE POINTS PER PORTHOLE:	12
7)	TOTAL NUMBER OF TRAVERSE POINTS:	24
8)	DURATION OF TRAVERSE POINTS IN MINUTES:	2.5
9)	TOTAL TEST TIME IN MINUTES:	60
10)	BAROMETRIC PRESSURE (PB) IN IN. HG:	30.13
11)	STACK STATIC PRESSURE IN IN. WG:	.13
12)	AVERAGE DELTA P IN IN. WG:	.318
13)	SQUARE ROOT OF DELTA P:	.5639149
14)	AVERAGE DELTA H IN IN. WG:	2.013
15)	AVERAGE STACK TEMPERATURE (TS) IN F:	148
16)	AVERAGE STACK TEMPERATURE (TS) IN R:	608
17)	AVERAGE METER TEMPERATURE (TM) IN F:	90
18)	AVERAGE METER TEMPERATURE (TM) IN R:	550
19)	PERCENTAGE OF CO2:	11.3
20)	PERCENTAGE OF O2:	8.7
21)	PERCENTAGE OF CO AND N2:	80
22)	IMPINGER WATER GAIN (VF) IN ML:	277
23)	SILICA GEL GAIN (WF) IN GRAMS:	11.5
24)	VOLUME COLLECTED (VM) IN DCF:	46.4
25)	PARTICULATE COLLECTED (M) IN GRAMS:	0
26)	PARTICULATE COLLECTED (MN) IN MG:	0

PENSACOLA P.O.C. INC.
109 S. SECOND STREET
PENSACOLA, FLORIDA 32507
(904) 456-4406

CLIENT'S NAME: LFC POWER SYSTEMS

LOCATION: MADISON, FL

TEST DATE: 13 OCTOBER 1993

TEST RESULTS SUMMARY
RUN NUMBER: 1

A. STACK ABSOLUTE PRESSURE (PS) IN IN. HG:	30.13956
B. STANDARD VOLUME METERED (VM STD) IN DSCF:	45.07685
C. MOISTURE CONTENT OF STACK	
1. H2O COLLECTED IN IMPINGERS IN SCF:	13.03839
2. H2O COLLECTED IN SILICA GEL IN SCF:	.541305
3. MOISTURE CONTENT OF STACK GAS (BWS):	.231512
D. MOLECULAR WEIGHT OF STACK GAS (LB/LB MOLE)	
1. DRY MOLECULAR WEIGHT (MD):	30.156
2. WET MOLECULAR WEIGHT (MS):	27.34174
E. AVERAGE STACK GAS VELOCITY (VS) IN FT/SEC:	34.78391
F. ACTUAL FLOW RATE (QA) IN ACFM:	55723.83
G. VOLUMETRIC FLOW RATE (QS) IN DSCFM:	37467.62
H. PARTICULATE MASS RATE (PMR) IN LB/HR:	0
I. PERCENT ISOKINETIC VARIATION (I):	101.5065
J. PARTICULATE CONC. (CS) IN GRAINS/SDCF:	0

PENSACOLA P.O.C. INC.
109 S. SECOND STREET
PENSACOLA, FLORIDA 32507

(904) 456-4406

CLIENT'S NAME: LFC POWER SYSTEMS

LOCATION: MADISON, FL

TEST DATE: 13 OCTOBER 1993

INPUT DATA SUMMARY
RUN NUMBER: 2

1)	AREA OF STACK (AS) IN SF:	26.7
2)	NOZZLE SIZE IN INCHES:	.311
3)	AREA OF NOZZLE (AN) IN SF:	5.275163E-04
4)	DRY GAS METER CORRECTION FACTOR (YM):	1
5)	NUMBER OF PORTHOLES:	2
6)	NUMBER OF TRAVERSE POINTS PER PORTHOLE:	12
7)	TOTAL NUMBER OF TRAVERSE POINTS:	24
8)	DURATION OF TRAVERSE POINTS IN MINUTES:	2.5
9)	TOTAL TEST TIME IN MINUTES:	60
10)	BAROMETRIC PRESSURE (PB) IN IN. HG:	30.12
11)	STACK STATIC PRESSURE IN IN. WG:	.11
12)	AVERAGE DELTA P IN IN. WG:	.32
13)	SQUARE ROOT OF DELTA P:	.5656854
14)	AVERAGE DELTA H IN IN. WG:	2.03
15)	AVERAGE STACK TEMPERATURE (TS) IN F:	151
16)	AVERAGE STACK TEMPERATURE (TS) IN R:	611
17)	AVERAGE METER TEMPERATURE (TM) IN F:	105
18)	AVERAGE METER TEMPERATURE (TM) IN R:	565
19)	PERCENTAGE OF CO2:	12
20)	PERCENTAGE OF O2:	8
21)	PERCENTAGE OF CO AND N2:	80
22)	IMPINGER WATER GAIN (VF) IN ML:	285
23)	SILICA GEL GAIN (WF) IN GRAMS:	13
24)	VOLUME COLLECTED (VM) IN DCF:	48
25)	PARTICULATE COLLECTED (M) IN GRAMS:	0
26)	PARTICULATE COLLECTED (MN) IN MG:	0

PENSACOLA P.O.C. INC.
109 S. SECOND STREET
PENSACOLA, FLORIDA 32507
(904) 456-4406

CLIENT'S NAME: LFC POWER SYSTEMS

LOCATION: MADISON, FL

TEST DATE: 13 OCTOBER 1993

TEST RESULTS SUMMARY
RUN NUMBER: 2

A. STACK ABSOLUTE PRESSURE (PS) IN IN. HG:	30.12809
B. STANDARD VOLUME METERED (VM STD) IN DSCF:	45.38011
C. MOISTURE CONTENT OF STACK	
1. H2O COLLECTED IN IMPINGERS IN SCF:	13.41495
2. H2O COLLECTED IN SILICA GEL IN SCF:	.61191
3. MOISTURE CONTENT OF STACK GAS (BWS):	.2361148
D. MOLECULAR WEIGHT OF STACK GAS (LB/LB MOLE)	
1. DRY MOLECULAR WEIGHT (MD):	30.24
2. WET MOLECULAR WEIGHT (MS):	27.34996
E. AVERAGE STACK GAS VELOCITY (VS) IN FT/SEC:	34.9805
F. ACTUAL FLOW RATE (QA) IN ACFM:	56038.77
G. VOLUMETRIC FLOW RATE (QS) IN DSCFM:	37255.62
H. PARTICULATE MASS RATE (PMR) IN LB/HR:	0
I. PERCENT ISOKINETIC VARIATION (I):	102.7709
J. PARTICULATE CONC. (CS) IN GRAINS/SDCF:	0

PENSACOLA P.O.C. INC.
109 S. SECOND STREET
PENSACOLA, FLORIDA 32507

(904) 456-4406

CLIENT'S NAME: LFC POWER SYSTEMS

LOCATION: MADISON, FL

TEST DATE: 13 OCTOBER 1993

INPUT DATA SUMMARY
RUN NUMBER: 3

1)	AREA OF STACK (As) IN SF:	26.7
2)	NOZZLE SIZE IN INCHES:	.311
3)	AREA OF NOZZLE (An) IN SF:	5.275163E-04
4)	DRY GAS METER CORRECTION FACTOR (Ym):	1
5)	NUMBER OF PORTHOLES:	2
6)	NUMBER OF TRAVERSE POINTS PER PORTHOLE:	12
7)	TOTAL NUMBER OF TRAVERSE POINTS:	24
8)	DURATION OF TRAVERSE POINTS IN MINUTES:	2.5
9)	TOTAL TEST TIME IN MINUTES:	60
10)	BAROMETRIC PRESSURE (Pb) IN IN. HG:	30.07
11)	STACK STATIC PRESSURE IN IN. WG:	.14
12)	AVERAGE DELTA P IN IN. WG:	.311
13)	SQUARE ROOT OF DELTA P:	.5576738
14)	AVERAGE DELTA H IN IN. WG:	2
15)	AVERAGE STACK TEMPERATURE (Ts) IN F:	150
16)	AVERAGE STACK TEMPERATURE (Ts) IN R:	610
17)	AVERAGE METER TEMPERATURE (Tm) IN F:	105
18)	AVERAGE METER TEMPERATURE (Tm) IN R:	565
19)	PERCENTAGE OF CO2:	12.4
20)	PERCENTAGE OF O2:	7.8
21)	PERCENTAGE OF CO AND N2:	79.8
22)	IMPINGER WATER GAIN (Vf) IN ML:	286
23)	SILICA GEL GAIN (Wf) IN GRAMS:	13.4
24)	VOLUME COLLECTED (Vm) IN DCF:	47.2
25)	PARTICULATE COLLECTED (M) IN GRAMS:	0
26)	PARTICULATE COLLECTED (Mn) IN MG:	0

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(904) 456-4406

CLIENT'S NAME: LFC POWER SYSTEMS

LOCATION: MADISON, FL

TEST DATE: 13 OCTOBER 1993

TEST RESULTS SUMMARY
RUN NUMBER: 3

A. STACK ABSOLUTE PRESSURE (PS) IN IN. HG:	30.08029
B. STANDARD VOLUME METERED (VM STD) IN DSCF:	44.54681
C. MOISTURE CONTENT OF STACK	
1. H2O COLLECTED IN IMPINGERS IN SCF:	13.46202
2. H2O COLLECTED IN SILICA GEL IN SCF:	.630738
3. MOISTURE CONTENT OF STACK GAS (BWS):	.2403285
D. MOLECULAR WEIGHT OF STACK GAS (LB/LB MOLE)	
1. DRY MOLECULAR WEIGHT (MD):	30.296
2. WET MOLECULAR WEIGHT (MS):	27.34092
E. AVERAGE STACK GAS VELOCITY (VS) IN FT/SEC:	34.48992
F. ACTUAL FLOW RATE (QA) IN ACFM:	55252.85
G. VOLUMETRIC FLOW RATE (QS) IN DSCFM:	36532.34
H. PARTICULATE MASS RATE (PMR) IN LB/HR:	0
I. PERCENT ISOKINETIC VARIATION (I):	102.8811
J. PARTICULATE CONC. (CS) IN GRAINS/SDCF:	0

Run 1 Calculations

Pensacola P.O.C., Inc.

METHOD 5 CALCULATION FORM

LFC Power Systems Corp.
Madison, FL
as tested 10/13/93
RUN I

1. Necessary Data

A. Reference Method #1

- Area of Stack (A_s) 26.7 ft^2
- No. of equivalent diameters upstream 1.9
- No. of equivalent diameters downstream 3.4
- No. of traverse points 21
- Total test time ~~(θ)~~ 60 minutes

B. Reference Method #2

- Average stack temperature (t_s) 148 °F

  T_s = 148 + 460 = 608 °R

- Stack absolute pressure (P_s) 30.14 " Hg
- Barometric pressure (P_b) 30.13 " Hg
- $\overline{\Delta P}$ 0.318 " WG $\overline{\Delta P}^{1/2}$ 0.5639

C. Reference Method #3

%CO_2 11.3 : %O_2 8.7 : %CO + %N_2 80

D. Reference Method #4 (water collected)

- Impinger water gain 277 ml
- Silica gel gain 11.5 g

E. Reference Method #5

- Area of nozzle (A_n) 0.0005275 ft^2
- Average ΔH 2.013 in H_2O
- Average meter temp. (t_m) 90 °F

  T_m = 90 + 460 = 550 °R

- Dry gas meter correction factor (Y_m) 1.0
- Volume metered (V_m) 46.4 DCF
- Particulate weight N/A(M) _____ g M_n _____ mg

II. Calculations

A. Standard Volume Metered
Y_m = Dry Gas Meter Calibration Factor

$V_{m(std)} = V_m \times Y_m \times (T_{std} / P_{std}) \times [(P_b + \overline{\Delta H}/13.6)/T_m]$

(46.4 CF)(1.0)(528/29.92) [(30.13+2.013/13.6)/550 R)]

$V_{m(std)}$ = (46.4)(1.0) 17.647 (0.055 = 45.04 DSCF

B. Moisture Content of Stack Gas

1. H_2O collected in impingers in standard cubic feet

$V_{ws(std)} = F (V_f - V_i)$

= (0.04707 ft^3/ml) (277 ml) = 13.038 SCF

2. H_2O collected in silica gel in standard cubic feet

$V_{wsg(std)} = K (W_f - W_i)$

= (0.04715 ft^3/g)(11.5 g) = 0.54 SCF

3. Moisture Content of Stack Gas (B_{ws})

$B_{ws} = (V_{ws(std)} + V_{wsg(std)}) / (V_{ws(std)} + V_{wsg(std)} + V_{m(std)})$

= (13.038) +(0.54) / (13.038)+(0.54)+(45.04)

B_{ws} = 0.2316 SCF

C. Molecular Weight of Stack Gas (lb/lb mole)

1. M_d (Dry molecular weight) = $M_I B_I$

(.44)(11.3 %CO_2)+(.32)(8.7 %O_2)+(.28)(80 %CO+N_2)

M_d = (4.972)+(2.784)+(22.4) = 30.156 lb/lb mole

2. M_s (Wet Molecular Weight) = $M_d (1-B_{ws}) + 18B_{ws}$

(30.156)(1 - 0.2316) + 18(0.2316)

(30.156)(0.7684) + (4.1688) = 27.34 lb/lb mole

D. Average Stack Gas Velocity

$V_s = K_p \times C_p \times [T_s / (P_s \times M_s)]^{1/2} \times (\Delta P)^{1/2}$

$= 85.49$ ft/sec (0.84)[608 / (30.14)(27.34)]$^{1/2}$ (0.6639)

V_s = 34.78 ft/sec

E. Quantity of Air

$Q_a = V_s \times A_s \times 60 = ACFM$

Q_a = 34.78 x 26.7 x 60 = 55,718 ACFM

F. Average Stack Gas Volumetric Flow Rate

$Q_s = Q_a \times (1 - B_{ws}) (T_{std} / P_{std}) (P_s / T_s)$

= 55,718 x (1 - 0.2316) (528/29.92) (30.14 / 608)

Q_s = 55,718 x 0.7684 x 17.65 x 0.0496 = 37,481 DSCFM

G. %Isokinetic Variation

$\%I = [(T_s \times V_{m(std)} \times P_{std}) /$

$(A_n \times \theta \times V_s \times P_s \times T_{(std)} \times 60 \times (1-B_{ws}))] \times 100$

(608)(15.09)(29.92) /

(0.002673)(60)(34.78)(30.14) 528 x 60 (0.7684) x 100

%I = 101.5

H. Pollutant Mass Rate N/A

PMR = (Mass / $V_{m(std)}$) x (Q_s x 60 min/hr) (1/454 g/lb) = lb/hr

(_____ g / _____)(_____ x 60) x 0.0022 lb/g

PMR = _____ lb/hr

Field Data Sheets

COMPANY NAME: LEC Power Systems DATE TESTED: 10-13-93

LOCATION: Madison, FL PAGE 1 OF 3

RUN NO.: 1 PORT NO.: _____ OPERATING RATE: _____

TEST START TIME: 10:18 TEST STOP TIME: 11:25 Am

AMB. TEMP.: 65 FDB %RH: _____ K: 6.33 Cp: 0.84 ΔHa: _____

BAR. PRESS.: 30.13 "Hg NOZZLE: #X 5/16 PROBE: 8' SS

LEAK TESTS				
	TRAIN		PITOT	
	PRETEST	POSTTEST	PRETEST	POSTTEST
"Hg	15	15	✓	✓
SECs	60	60	FYRITE	
METER IN	511.426	557.970		
METER OUT	511.427	557.971		

PT.	MIN'S 2.5	GAS METER VOL CF	ΔP 0.21	ΔH	VAC "HG	TEMPERATURE F Gas Meter IN	Gas Meter OUT	STACK	Hot Box	PROBE	4th Impin
A 1		511.4	0.21	1.34	2	65	65	101	250	229	55
2		513.2	0.30	1.90	3.5	72	65	132	251	226	53
3		515.0	0.30	1.90	3.5	79	66	147	250	237	52
4		516.9	0.28	1.77	3.5	87	67	151	250	251	53
5		518.7	0.34	2.15	4.0	93	68	157	250	260	54
6		520.7	0.39	2.45	5.0	98	69	158	249	265	54
7		522.8	0.40	2.53	5.0	103	70	160	247	259	54
8		525.0	0.38	2.41	5.0	104	72	160	246	254	55
9		527.2	0.37	2.34	5.5	109	74	162	245	264	56
10		529.4	0.35	2.22	5.0	109	75	159	235	273	56
11		531.5	0.35	2.22	5.0	112	77	160	239	273	57
12		533.6	0.29	1.84	5.0	112	78	157	240	272	56
B 1		535.5	0.19	1.20	4.0	100	79	116	241	273	59
2		537.1	0.28	1.77	4.0	103	80	125	241	273	57
3		538.7	0.27	1.71	4.0	108	81	145	242	263	56
4		540.5	0.30	1.90	5.0	111	82	147	243	256	56
5		542.4	0.32	2.03	5.0	110	83	149	244	269	57
6		544.4	0.38	2.41	6.0	113	84	153	246	271	57
7		546.6	0.36	2.28	6.0	113	84	150	247	273	58
8		548.7	0.34	2.15	6.0	114	85	151	247	272	59
9		550.7	0.33	2.09	5.5	116	86	151	247	269	60
10		552.5	0.31	1.96	5.5	114	86	153	246	271	59
11		554.3	0.31	1.96	5.5	114	87	157	246	271	59
12		556.0	0.28	1.77	5.5	115	87	156	247	270	58
		557.8									

NOTES:

461 0.318 ✓ 2.013 ✓ 90 ✓ 46 ✓

BD.

COMPANY NAME: LFC Power Systems DATE TESTED: 10-13-93

LOCATION: Madison, FL PAGE 2 OF 3

RUN NO.: 2 PORT NO.: _____ OPERATING RATE: _____

TEST START TIME: 12:31 TEST STOP TIME: 1:35

AMB. TEMP.: _____ FDB %RH: _____ K: 6.39 Cp: 0.84 ΔHa: _____

BAR. PRESS.: 30.12 "Hg NOZZLE: # X 5/16 PROBE: 8' SS

LEAK TEST	TRAIN		PITOT	
	PRETEST	POSTTEST	PRETEST	POSTTEST
"HG	17	15	✓	✓
SECs	60	60	FYRITE	
METER IN	566.968	615.135	N/A	
METER OUT	566.968	615.136		

PT.	MIN'S 2.5	GAS METER VOL CF	ΔP	ΔH	VAC "HG	TEMPERATURE F Gas Meter IN	Gas Meter OUT	STACK	Hot Box	PROBE	4th Impin
D 1		567.0	0.16	1.01	25	87	84	105	240	258	67
2		568.5	0.27	1.71	3.0	97	85	117	241	251	62
3		570.1	0.37	2.15	4.0	103	85	137	243	255	59
4		572.2	0.37	2.34	5.0	110	86	146	244	268	57
5		574.3	0.39	2.47	5.0	115	87	150	245	267	60
6		576.5	0.39	2.47	5.0	119	88	153	247	265	61
7		578.6	0.37	2.34	5.0	122	89	156	247	262	62
8		580.7	0.34	2.15	5.0	119	90	154	245	262	61
9		582.8	0.34	2.15	5.0	119	90	154	240	261	60
10		585.0	0.33	2.09	5.0	121	91	157	249	271	60
11		587.1	0.31	1.96	5.0	123	92	157	250	270	61
12		589.1	0.28	1.77	5.0	126	93	157	248	259	61
A 1		591.0	0.19	1.20	4.0	114	93	130	271	236	63
2		592.6	0.28	1.77	5.0	116	94	139	268	244	59
3		594.4	0.30	1.90	5.5	121	95	152	249	249	59
4		596.4	0.29	1.84	5.5	122	95	155	249	249	57
5		598.3	0.33	2.09	5.5	122	96	163	250	250	59
6		600.3	0.35	2.22	6.0	123	97	164	251	247	59
7		602.3	0.36	2.28	6.0	125	97	163	248	250	60
8		604.5	0.37	2.34	6.0	126	98	164	254	248	60
9		606.7	0.36	2.28	6.5	126	98	162	249	252	62
10		608.9	0.34	2.15	7.0	128	98	164	257	259	62
11		610.9	0.34	2.15	7.0	129	99	164	247	250	63
12		613.0	0.29	1.84	7.0	127	99	164	255	245	62
		615.0									
			48	0.320 ✓	2.03 ✓		105 ✓	151 ✓			

NOTES:

BD

COMPANY NAME: LEC Power Systems DATE TESTED: 10-13-93

LOCATION: Madison, FL PAGE 3 OF 3

RUN NO.: 3 PORT NO.: A OPERATING RATE:

TEST START TIME: 3:19 TEST STOP TIME: 4:21 pm

AMB. TEMP.: 74 FDB %RH: 30 K: 6.33 Cp: 0.84 ΔHa:

BAR. PRESS.: 30.07 "Hg NOZZLE: # X PROBE: 8' SS

LEAK TESTS	TRAIN		PITOT	
	PRETEST	POSTTEST	PRETEST	POSTTEST
"HG	15"	15	✓	✓
SECS	60	60	FYRITE	
METER IN	626.052	673.411	N/A	
METER OUT	626.053	673.411		

PT.	MIN'S 2.5	GAS METER VOL CF	ΔP	ΔH	VAC "HG	TEMPERATURE F Gas Meter IN	Gas Meter OUT	STACK	Hot Box	PROBE	4th Impin
A 1		626.1	0.16	1.01	2.0	86	88	135	263	243	65
2		627.6	0.28	1.77	3.5	91	88	129	244	238	59
3		629.4	0.32	2.03	4.0	98	88	149	247	231	56
4		631.4	0.28	1.77	4.0	104	88	151	258	239	55
5		633.3	0.32	2.03	4.5	108	89	158	242	263	57
6		635.3	0.34	2.25	4.5	113	90	160	250	258	58
7		637.3	0.34	2.25	4.5	115	90	161	260	250	58
8		639.3	0.35	2.32	5.0	116	91	160	249	243	59
9		641.4	0.37	2.45	5.5	120	92	159	239	248	59
10		643.7	0.37	2.45	5.5	121	92	158	255	262	58
11		645.8	0.35	2.32	5.5	123	93	158	253	261	58
12		648.0	0.30	1.90	5.5	125	94	158	256	253	58
B 1		650.1	0.20	1.27	4.5	112	94	126	258	254	62
2		651.2	0.28	1.77	4.5	113	94	139	250	246	60
3		653.1	0.32	2.03	5.0	115	94	141	254	232	57
4		655.0	0.35	2.23	5.5	118	95	143	252	242	57
5		657.1	0.36	2.28	5.5	121	95	149	256	246	56
6		659.3	0.37	2.34	6.0	124	96	153	256	253	57
7		661.4	0.34	2.15	6.0	128	97	154	255	251	58
8		663.6	0.33	2.09	6.0	129	98	153	250	247	58
9		665.5	0.30	1.90	6.0	130	98	150	250	248	58
10		667.5	0.30	1.90	6.0	131	99	154	252	260	58
11		669.5	0.27	1.71	6.0	131	99	152	238	263	59
12		671.4	0.27	1.71	6.0	130	100	151	244	251	59
		673.3									

NOTES: 47.2✓ 0.311✓ 2.00✓ 105✓ 150✓

Blk

CLIENT: LFC Power Systems DATE: 10-13-93

LOCATION: Madison, FL SOURCE: Scrubber

Run Number 1

Nozzle Size 0.311 (1) 0.312 (2) 0.311 (3) 0.311 Average

O2 ____ % CO2 ____ % CO ____ %

Water:	In	Out	Color	Gain
cyclone	-0-	-0-		
impinger #1	100	250+95	clear	
impinger #2	100	132	clear	
impinger #3	-0-	-0-		
			Total	277 ml

4th Impinger Temperature: Pt. ⟶

1.	2.	3.	4.	5.	6.	7.	8.	9.
10.	11.	12.	13.	14.	15.	16.	17.	18.
19.	20.	21.	22.	23.	24.			

Silica Gel:	617 In	Out	Color	Gain in g
impinger #4	317.1	328.6	1/3 pink	11.5

CLIENT: LFC Power Systems DATE: 10-13-93

LOCATION: Madison, FL SOURCE: Scrubber

Run Number 2.

Nozzle Size 0.311 (1) 0.310 (2) 0.311 (3) 0.311 Average

O2 ____ % CO2 ____ % CO ____ %

Water:	In	Out	Color	Gain
cyclone	-0-	-0-		
Impinger #1	100	250+ 103	clear	
Impinger #2	100	132	clear	
Impinger #3	-0-	-0-		
			Total	285 ml

4th Impinger Temperature: Pt. →

1.	2.	3.	4.	5.	6.	7.	8.	9.
10.	11.	12.	13.	14.	15.	16.	17.	18.
19.	20.	21.	22.	23.	24.			

Silica Gel:	62.0 In	Out	Color	Gain in g
Impinger #4	315.0	328.0	Pink	13.0

CLIENT: LFC Power Systems DATE: 10-13-93

LOCATION: Madison, FL SOURCE: Scrubber

Run Number 3

Nozzle Size 0.311 (1) 0.311 (2) 0.311 (3) 0.311 Average

O2 ____% CO2 ____% CO ____%

Water:	In	Out	Color	Gain
cyclone	-0-			
Impinger #1	100	250 + 106	clear	
Impinger #2	100	130	clear	
Impinger #3	-0-	-0-		
			Total	286 ml

4th Impinger Temperature: Pt. →

1.	2.	3.	4.	5.	6.	7.	8.	9.
10.	11.	12.	13.	14.	15.	16.	17.	18.
19.	20.	21.	22.	23.	24.			

Silica Gel:	6210 In	Out	Color	Gain in g
Impinger #4	314.1	327.5	1/3 pink	13.4

000528

ORSAT DATA SHEET

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

Run # 1 Cont - Grab	Actual Reading	Net	Actual Reading	Net	Actual Reading	Net	Av
C02	11.5	11.5	11.3	11.3	11.2	11.2	11.3
02 (Net is actual 02 minus actual C02 reading)	20.2	8.7	20.0	8.7	20.0	8.8	8.7
C0 (Net is actual minus 02 reading)							
N2 (Net is 100 minus actual C0)	N/A		N/A		N/A		
Run # _____ Cont - Grab	Actual Reading	Net	Actual Reading	Net	Actual Reading	Net	Av
C02	12.1	12.0	12.0	12.0	12.0	12.0	12.0
02 (Net is actual 02 minus actual C02 reading)	20.0	8	20.0	8	20.0	8	8
C0 (Net is actual minus 02 reading)							
N2 (Net is 100 minus actual C0)	N/A		N/A		N/A		
Run # _____ Cont - Grab	Actual Reading	Net	Actual Reading	Net	Actual Reading	Net	Av
C02	12.5	12.5	12.3	12.3	12.3	12.3	12.4
02 (Net is actual 02 minus actual C02 reading)	20.1	7.9	20.2	7.9	20.0	7.5	7.8
C0 (Net is actual minus 02 reading)							
N2 (Net is 100 minus actual C0)	N/A		N/A		N/A		

$\pm 0.3\%$

Nomenclature

NOMENCLATURE

A_n = Cross-sectional area of nozzle, ft^2 (3 significant digits)

A_s = Area of stack, $ft.^2$

B_{ws} = Water vapor in the gas stream, proportion by volume (dimensionless)

C_p = Pitot tube coefficient (dimensionless)

c_s = Particulate concentration, grains/DSCF

c_{50} = Particulate concentration (c_s adjusted to 50% excess air) grains/DSCF

C_{12} = Particulate concentration (c_s adjusted to 12% CO_2) grains/DSCF

E = Emission rate in terms of applicable standard

E_c = Emission rate corrected for anisokinetic sampling conditions

EA = Excess air, %

I = Percent of isokinetic sampling

K_m = Orifice correction factor (dimensionless)

K_p = Pitot tube constant,

$$85.49 \text{ ft/sec.} \left[\frac{(\text{lb/lb-mole})\ (\text{in. Hg})}{(^{\circ}\text{R})\ (\text{in. } H_2O)} \right]^{1/2}$$

L_a = Maximum acceptable leakage rate for either a pretest leak check or for a leak check following a component change; equal to 0.02 CFM or 4% of the average sampling rate, whichever is less.

L_i = Individual leakage rate observed during leak check conducted prior to the "i^{th}" component change (i = 1, 2,.....n), CFM

L_p = Leakage rate observed during the post-leak check, CFM

m_n = Total amount of particulate matter collected, mg

m_a = Mass residue of acetone after evaporation, mg

M_d = Molecular weight of stack gas; dry bulb basis, lb/lb-mole

M_s = Molecular weight of stack gas; wet basis, lb/lb-mole

P_{bar} = Barometric pressure at the sampling site, in. Hg.

P_m = Meter pressure, in. Hg.

P_s = Absolutely stack pressure, in. Hg.

P_g = Stack static pressure, in. H_2O

P_{std} = Standard absolute pressure, 29.92 in. Hg.

PMR = Particulate mass rate, lb/hr.

Q_a = Volumetric flow rate, ACFM

Q_s = Volumetric flow rate, DSCFM

$\bar{t}_m$, $\bar{T}_m$ = Average temperature of meter, ^oF, ^oR

$\bar{t}_s$, $\bar{T}_s$ = Average temperature of stack, ^oF, ^oR

t_a, T_a = Ambient temperature, ^oF, ^oR

t_{std}, T_{std} = Standard temperature, 68^oF, 528^oR

v_s = Average stack gas velocity, ft/sec.

V_a = Volume of acetone blank, ml

V_{aw} = Volume of acetone used in wash, ml

V_f = Water collected by impingers, ml

V_{lc} = Total volume of liquid collected in impingers and silica gel, ml

V_m = Volume of gas sample as measured by dry gas meter, ACF

V_{mc} = Volume of gas sample, corrected for leak, ACF

$V_{m(std)}$ = Volume of gas sample measured by dry gas meter, corrected to standard conditions, DSCF

$V_{w(std)}$ = Volume of water vapor in gas sample, corrected to standard conditions, SCF

V_n = Volume collected at stack conditions through nozzle, ACF

V P = Velocity pressure

W_a = Weight of residue in acetone wash, mg.

W_f = Water collected by Silica gel, mg

Y = Dry gas meter calibration factor (dimensionless)

$\overline{\Delta H}$ = Average pressure difference of orifice, in. H_2O

Δp = Velocity head of stack gas, in. H_2O

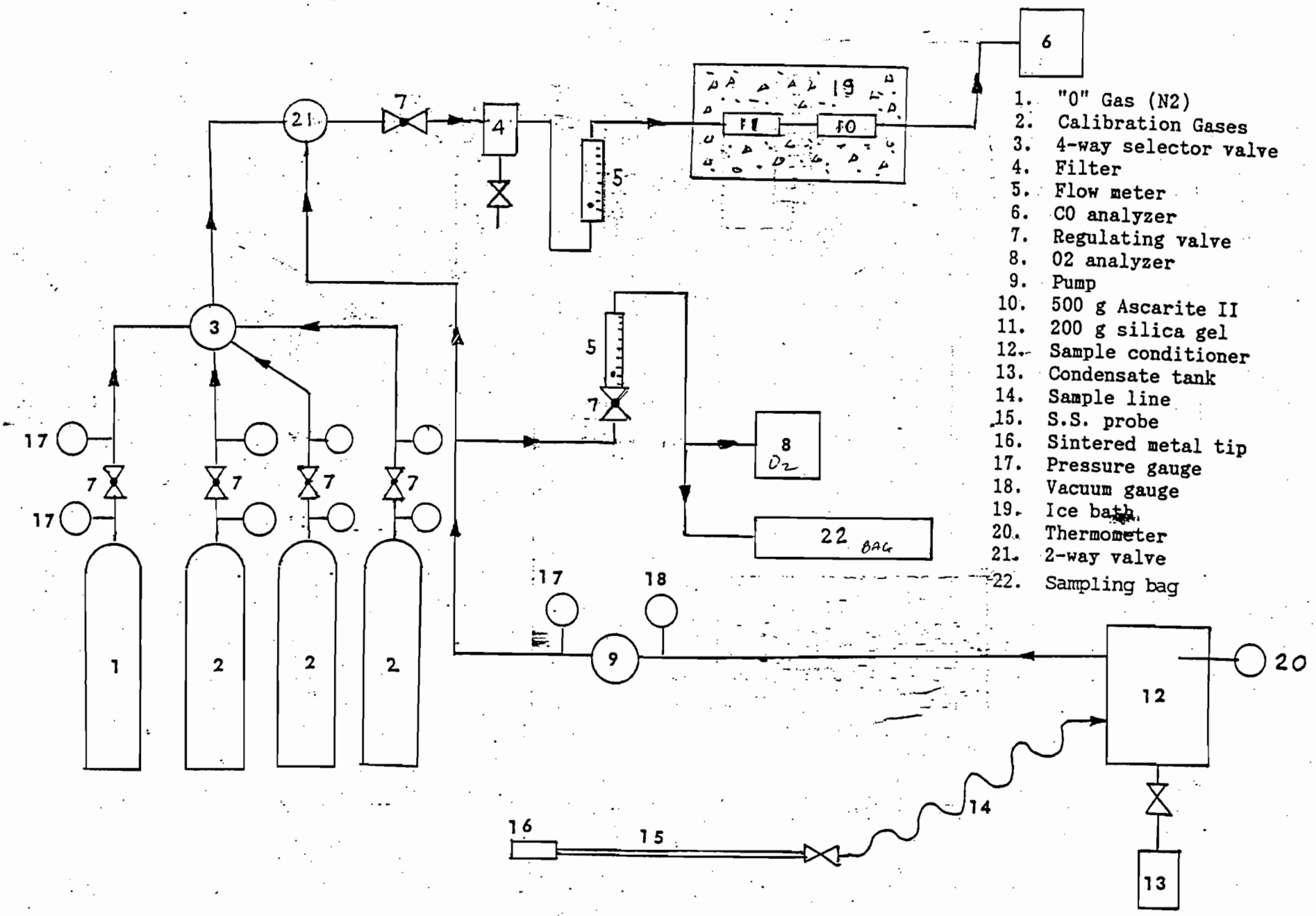
$\overline{\sqrt{\Delta p}}$ = Average of the square roots of the velocity pressure, in. H_2O

ΔH_a = Value of ΔH measured for a specific orifice when operated under the following conditions: 0.75 CFM of dry air (M.W. = 29) at $68^{\circ}F$, 29.92 in. Hg.

θ = Total sampling time, minutes

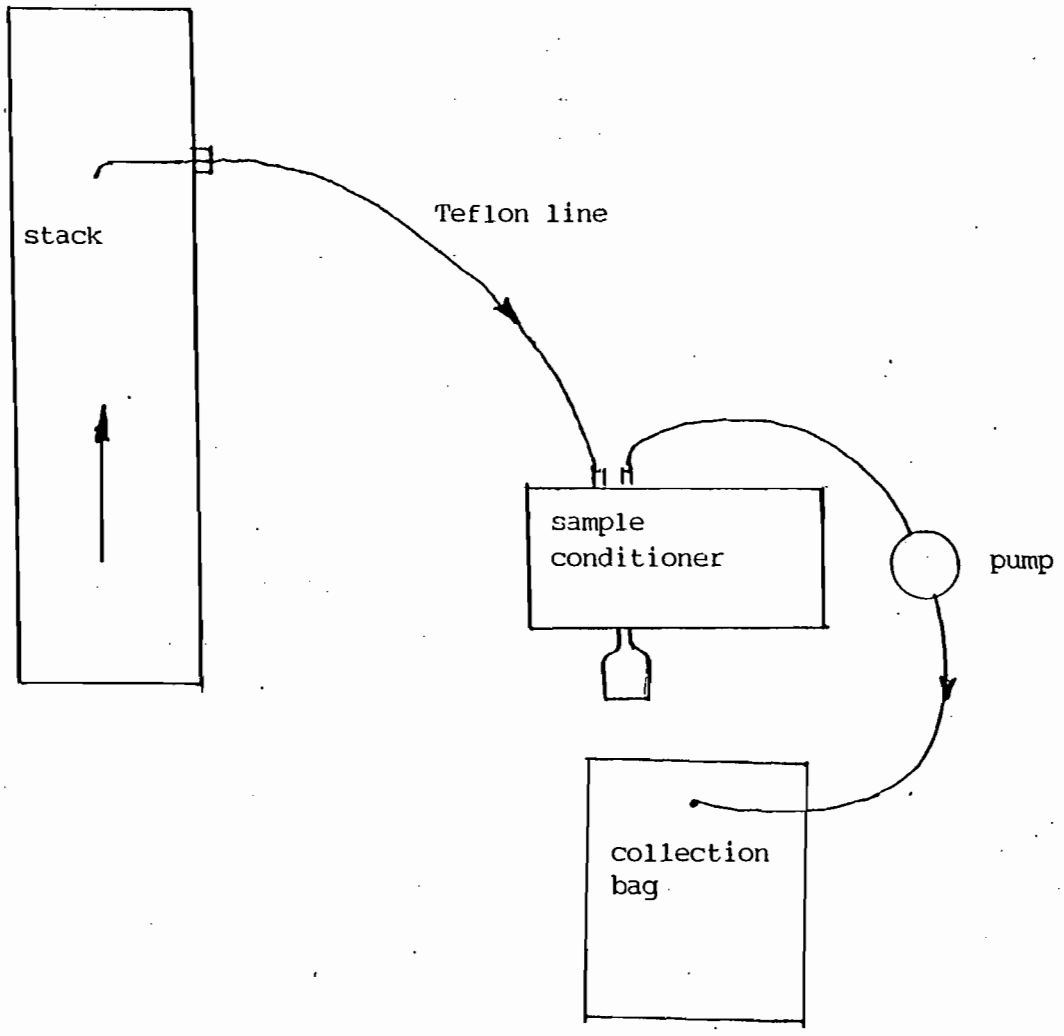
% CO_2, % O_2, % N_2, % CO -Number % by volume, dry basis from gas analysis

Sampling Train(s) and Sample Point Locations



Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

EPA METHOD 10, CO SAMPLING TRAIN

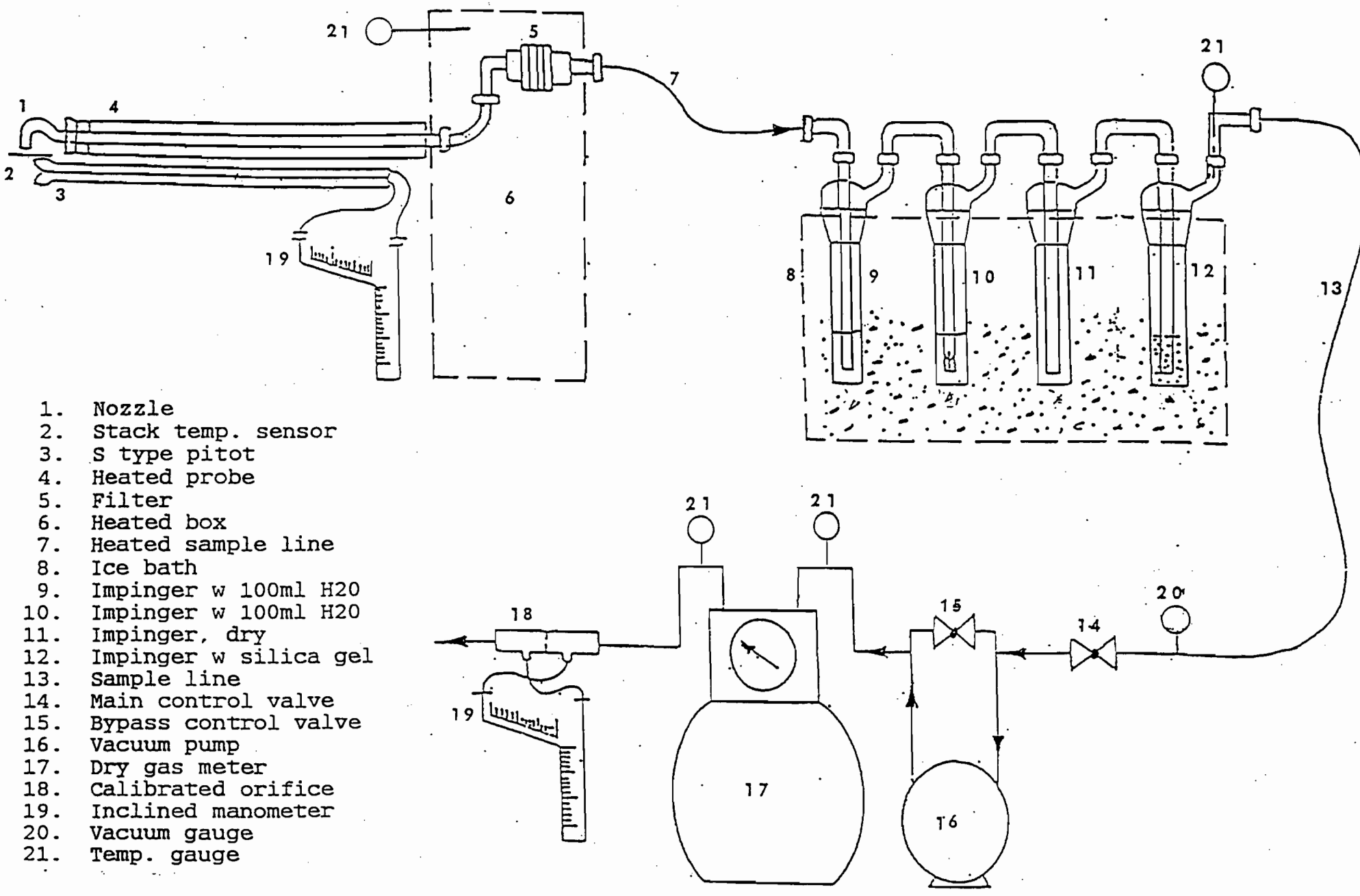


PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

02 Collection Train

Date	
Scale	NTS

Sketch ___ of ___



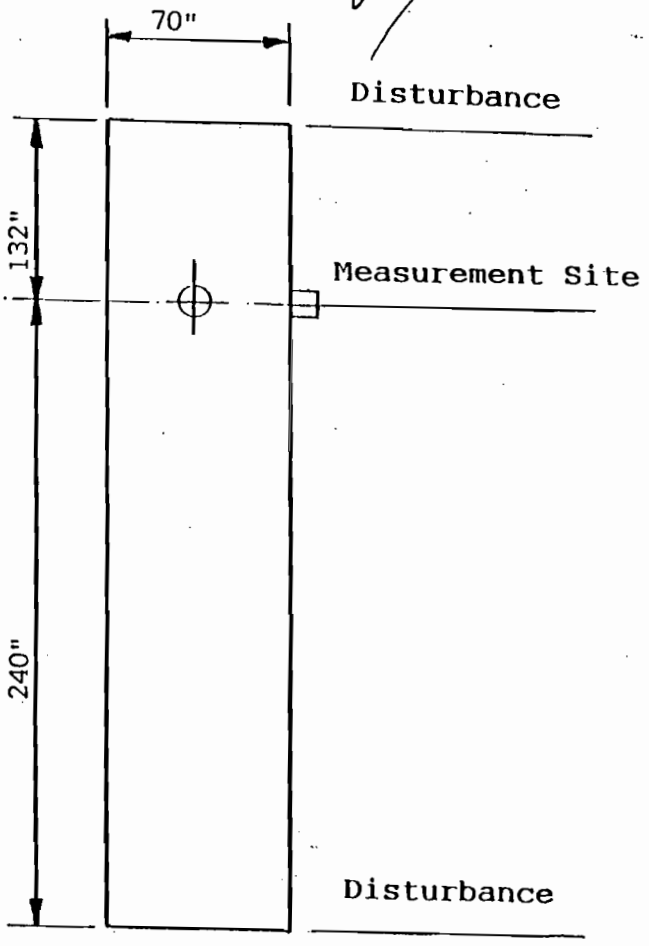
1. Nozzle
2. Stack temp. sensor
3. S type pitot
4. Heated probe
5. Filter
6. Heated box
7. Heated sample line
8. Ice bath
9. Impinger w 100ml H20
10. Impinger w 100ml H20
11. Impinger, dry
12. Impinger w silica gel
13. Sample line
14. Main control valve
15. Bypass control valve
16. Vacuum pump
17. Dry gas meter
18. Calibrated orifice
19. Inclined manometer
20. Vacuum gauge
21. Temp. gauge

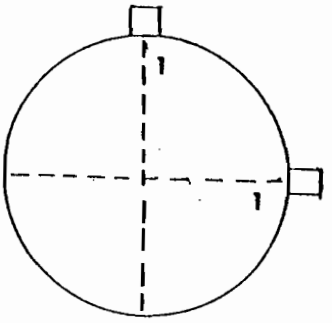
Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

EPA METHOD 5, PARTICULATE SAMPLING TRAIN

Client : LFC Power Systems Corporation
Location : Madison, FL
Source : Boiler Scrubber Exhaust

As 26,725 ft²





Point Number	Distance in Inches
1.	1.5
2.	4.7
3.	8.3
4.	12.4
5.	17.5
6.	24.9
7.	45.1
8.	52.5
9.	57.6
10.	61.7
11.	65.3
12.	68.5

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

EPA METHOD 1 SAMPLE POINTS LOCATIONS

Equipment Calibrations

PENSACOLA T.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

CALIBRATION OF METERING CONSOLE NO. 1

DATE: 4-21-93

CALIBRATION PERFORMED BY: Ray Hadwin

CONSOLE NUMBER: 986-3046

DRY GAS METER NUMBER: 647716 5-19D

DRY GAS METER CORRECTION FACTOR (Ym): 1.00

BAROMETRIC PRESSURE (Pb): 30.08 "Hg

ΔH "WG	Av. V2-V1 CF	θ Sec.	Av. t1 Deg. F	Av. t2 Deg. F	Qm	Km
0.5	2.1	300	85	79	0.4177	0.7499
1.0	2.93	300	101	84	0.6095	0.7881
1.5	3.63	300	112	91	0.7118	0.7254
2.0	4.2	300	115	95	0.8251	0.7268
3.0	5.16	300	119	95	1.0102	0.7261
					Average Km	0.7433

Average Delta Ha = 0.921 / Average Km^2

= 0.921 / 0.5525 = 1.67

GAS METER TEST AND REPAIR RECORD CO. NO.

MANUFACTURER'S NO. SIZE MAKE

GY7165-190 ROCKWELL

DATE TESTED INDEX AS FOUND INDEX AS LEFT

6-9C

	OPEN		CHECK		LOW LITE	ACCURACY
	%F	%S	%F	%S		MINOR REPAIRS MAJOR REPAIRS REPAIR INDEX
A.F.	100		100			NEW STOCK CASE LEAK VALVE GROUND
A.L.	100		100		OK	NEW DIAPHRAGM ADJUSTED PAINTED

BODY GASKET $25.00

INDEX GASKET

H.H. PLATE GASKET

INSTALLED 4-21-93

TRAIN #1 BY: RH

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

CONSOLE NO. 1 CALIBRATION

Date: 4-21-93 Technician: RAY HADWIN

Bar. Pressure: 30.08 "Hg Water in Impingers: ✓
Silica Gel in 4th Impinger: ✓ Ice in Impinger Bath ✓
Probe Heated: ✓ Hot Box Heated: ____ Leak Check: ✓

10 "WG 60 Sec. Meter In: 632.250 Meter Out 632.250

Delta H of 0.5

	Meter In CF (V1)	Meter Out CF (V2)	CF	Temp. In Deg. F. (t1)	Temp. Out Deg. F (t2)
1.	633.0	635.1	2.1	79	77
2.	635.1	637.2	2.1	86	79
3.	637.2	639.3	2.1	91	81
Av.			2.1	85.3 ~	79 ~

Delta H of 1.0

	Meter In CF (V1)	Meter Out CF (V2)	CF	Temp. In Deg. F. (t1)	Temp. Out Deg. F (t2)
1.	639.4	642.3	2.9 ~	98	83
2.	642.3	645.3	3.0	101	84
3.	645.3	648.2	2.9	105	86
Av.			2.93 ~	101.3 ✓	84.3 ✓

Delta H of 1.5

	Meter In CF (V1)	Meter Out CF (V2)	CF	Temp. In Deg. F. (t1)	Temp. Out Deg. F (t2)
1.	648.4	652.0	3.6	109	88
2.	652.0	655.7	3.7	112	91
3.	655.7	659.3	3.6	114	93
Av.			3.63 ~	111.6 ~	90.6 ~

Delta H of 2.0

	Meter In CF (V1)	Meter Out CF (V2)	CF	Temp. In Deg. F. (t1)	Temp. Out Deg. F (t2)
1.	659.7	663.9	4.2	116	94
2.	663.9	668.1	4.2	115	95
3.	668.1	672.3	4.2	115	95
Av.			4.2	115.3 ✓	94.6 ~

Delta H of 3.0

	Meter In CF (V1)	Meter Out CF (V2)	CF	Temp. In Deg. F. (t1)	Temp. Out Deg. F (t2)
1.	672.6	677.7	5.1	117	95
2.	677.7	682.9	5.2	120	95
3.	682.9	688.1	5.2	121	96
Av.			5.16	119.3 ~	95.3

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

THERMOMETER CALIBRATION

DATE OF CALIBRATION: 4-21-93

CALIBRATION PERFORMED BY: RAY HADWIN

Calibration check of Oyster Digital Calibrator:
(0-1900° F, in 100° increments)

Altek Millivolt Calibrator	Oyster Digital Calibrator
0	1
100	100
200	200
300	298
400	394
500	495
600	596
700	699
800	803
900	906
1000	1006
1100	1107
1200	1199
1300	1301
1400	1401
1500	1501
1600	1603
1700	1704
1800	1803
1900	1900

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

TRAIN NO. 1 THERMOMETER CALIBRATION

1. Fourth Impinger Thermometer:
(40 - 70° F, in +/- 5° increments)

Oyster Calibrator	4th Impinger Thermometer
40	40
45	45
51	51
55	55
60	61
65	65
70	72

2. Meter In Thermometer:
(70 - 140° F, in +/- 10° increments)

Oyster Calibrator	Meter In Thermometer
70	68
80	78
90	88
100	98
110	108
120	119
130	129
140	139

3. Meter Out Thermometer:
(70 - 140° F, in +/- 10° increments)

Oyster Calibrator	Meter Out Thermometer
69	68
80	79
90	89
99	98
110	109
120	120
130	129
140	139

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

TRAIN NO. 1 THERMOMETER CALIBRATION continued

4. Hot Box Thermometer:
(220 - 270° F, in +/- 10° increments)

Oyster Calibrator	Hot Box Thermometer
220	220.4
231	232.1
241	241.7
251	252.1
260	261.5
270	271.2

5. Probe Thermometer:
(220 - 320° F, in +/- 10° increments)

Oyster Calibrator	Probe Thermometer
220	220
230	231
240	241
250	251
259	260
271	272
280	281
290	291
302	304
310	312
321	323

PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

TRAIN NO. 1 THERMOMETER CALIBRATION continued

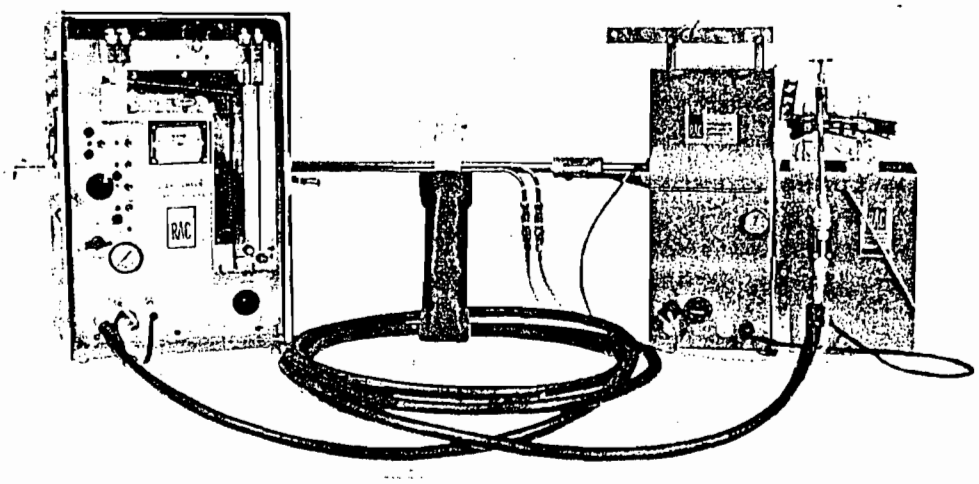
6. Stack Thermometer:
(0 - 1900° F, in +/- 10° increments)

Oyster Calibrator	Stack Thermometer
0	5.8
99	96.0
200	198.2
300	300.2
401	402.8
500	502.4
600	602.2
700	698.6
800	796.0
900	890.0
1002	994.2
1100	1094.8
1200	1197.6
1300	1296.2
1400	1396.4
1501	1498.6
1599	1593.8
1699	1693.6
1800	1794.8
1899	1895.8

ANDERSEN
SAMPLERS INCORPORATED

This certifies that 'S' Type Pitot Tubes constructed and calibrated by Andersen Samplers, Inc. comply with procedures given in the Environmental Protection Agency Reference Method 2-Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube), Vol. 42, No. 160-Thursday, August 18, 1977. Andersen certifies that at time of shipment baseline coefficient values of 0.84 may be assigned to the pitot tubes.

4215 WENDELL DRIVE □ ATLANTA, GEORGIA 30336 □ (404) 691-1910 □ TELEX: 54-2523



Reliable Accurate Control

BULLETIN 2343-R3

modular, portable RAC STAKSAMPLR™

this versatile, efficient, field-proven system takes isokinetic samples of process & combustion effluents to EPA sampling standards

• features

- Designed & manufactured to EPA specifications (Federal Register) for sampling the emissions from stationary sources
- First stack sampling system made specifically to EPA design (1969)
- Modular sample case features separate, interchangeable impinger (ice bath) compartment and lightweight aluminum construction
- With glassware installed, complete 2-module sampling case weighs only 32 lbs; detached impinger module weighs only 14 lbs w/glassware
- A series of stack samples can be taken with one set-up (and with minimum downtime) by using several impinger modules equipped with different, preassembled trains
- ASTM & Power Test Code approved
- Ready-to-use, fully portable system
- Easy to install & operate
- Control unit can be located up to 300' from sample collecting unit
- Stainless steel pitobe assembly permits one-point sampling & flow measurements
- Pyrometer unit (optional, P/N 9927-26) takes concurrent stack temperature readings
- Variety of pitobe designs & probe tip sizes available
- Interchangeable 2.5", 3" & 4" dia particulate filters
- Ball-joint connections on glassware assure flexible vacuum-tight assembly, minimize the breakage experienced with solid connections
- Design of glassware connections prevents particle buildup at fitting inlets (if misaligned) & hang-ups if stopcock grease is used
- Nomograph is available to permit fast, accurate, on-site calculations
- Monorail suspension-guidance system for sample case & pitobe is easy to assemble, provides secure mounting & smooth traverse during sampling
- Integrated umbilical cord available in lengths of 25', 50', 75', 100', 200' and 300'
- Optional accessories enhance system's inherent capabilities & versatility

• application

The RAC Staksamplr System takes accurate, low cost, isokinetic samples of the effluents (particulates, gases, vapors or mists) in the emissions from chemical and combustion processes. This efficient, flexible system samples all gas stream effluents in accordance with **Environmental Protection Agency (EPA) standards,** as specified in the **Federal Register.** Introduced in 1969, the RAC Staksamplr was the *first* system made to the *EPA design* for stationary source sampling apparatus.

Today, the RAC Staksamplr is the most widely used — and most widely copied — system of its type. With hundreds of units now in use around the world, Research Appliance Company has the most extensive in-the-field operating experience of any manufacturer of this kind of equipment. RAC's expertise is reflected in progressive modifications and improvements to the basic design. It also has produced a wide range of accessories that have been developed or adapted to meet specialized stack sampling requirements.

Designed to operate with its sampling probe in a horizontal or vertical position, the versatile RAC Staksamplr can be used in round or rectangular stacks and ducts with flow velocities from 400 to 10,000 fpm and temperatures to approximately 2000°F. (NOTE: If flows below 400 fpm are encountered, measurements can be made by an accessory micromanometer (P/N 994084) that measures velocities down to approx. 65 fpm.)

The RAC Staksamplr collects samples of water vapor (Method 4), particulates (Methods 5 & 17), sulfur dioxide gas (Method 6), sulfuric acid mist, including sulfur trioxide (Method 8), inorganic lead (Method 12), fluorides (Methods 13A & B), mercury (Methods 101 & 102) and beryllium (Methods 103 & 104) all in accordance with EPA Methods as published in the Federal Register.

Engineered for ease of installation and operation, this advanced RAC system meets all accepted standards for stack sampling operations.

LFC POWER SYSTEMS CORPORATION

VIA FEDERAL EXPRESS

NOV 16 1993

Ms. Phoebe Scott
Northeast District
Florida Dept of Environmental Protection
7825 Baymeadows Way, Suite B200
Jacksonville, FL 32256-7577

RE: 1992 Annual Operating Report for Facility I.D. No. 31GVL40001101; Madison Biomass Facility

Dear Ms. Scott:

On behalf of LFC No. 47 Corp., I am hereby confirming the use of an emission factor of 4.0 lbs of CO per ton of fuel burned for the 1992 Annual Operating Report for this facility.

Additionally, attached please find 2 copies of the test report for the CO emissions testing recently performed at the Madison facility, as you requested.

I appreciate all of your assistance in this matter.

Sincerely,

Myron Burr
Compliance Manager

Attachment

MWB248.LTR

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

LFC POWER SYSTEMS

4000 KRUSE WAY PLACE
BUILDING ONE SUITE 260

10/20/93

TO: NAME: F

FIRM: F

FAX #: (

FROM: NAME:

Since the SCC emission factors used to compute the [illegible] for the AOR yielded > 100 T/Y for the CO, LFC decided to do a test to see if this was realistic. These are the results. The SCC factor was 4 lb/Ton fuel burned and this test resulted in 4.5 lb/Ton fuel burned. The facility will probably become a major Title V.

TOTAL NUMBER OF PAGES (INCLUDING COVER SHEET): 2

ORIGINAL BEING MAILED YES ✓ as final report NO

MESSAGE:

Dear Phoebe,

Attached please find the preliminary test data for CO emissions for the Madison facility as tested on 10/13/93. I expect the final report to be available early next week and forward 2 copies to you as soon as I receive it. Thank you again for your patience.

Yours,
Myron

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL (503) 636-9620 AS SO[illegible] AS POSSIBLE.

PRELIMINARY TEST RESULTS

October 15, 1993

LFC Power Systems
Madison, FL
as tested 13 October 1993

CO in Pounds/Hour

lb/hr = [(ppm volume x DSCFM) / (379×10^6)] x MW x 60

where: ppm volume = average recorded ppm during run
DSCFM = average dry standard cubic ft./min. during run
MW of CO = 12 + 16 = 28

Run 1

[(350 ppm x 37,467.62) / 379×10^6)] x 28 x 60 = 58.13 #/hr

Run 2

[(370 ppm x 37,255.62) / 379×10^6)] x 28 x 60 = 61.10 #/hr

Run 3

[(410 ppm x 36,532.34) / 379×10^6)] x 28 x 60 = 66.39 #/hr

Average 377 37,085

(58.13 + 61.10 + 66.39) / 3 = 61.87 #/hr of CO

Fuel feed rate was approx. 13.7 tons/hr

Therefore:

$$\frac{61.87 \text{ \# CO/hr}}{13.7 \text{ tons fuel/hr}} = 4.5 \text{ \# CO/ton fuel}$$

FLC

DATE 111993 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

METHOD 5/10 STACK TEST VERIFICATION

COMPANY NAME: LFC POWER SYSTEMS CORP — AFIS # 31GVL4000110
SOURCE DESCRIPTION: BIOMASS FUELED BOILER — TEST DATE: 10/13/93

COMPANY CONDUCTING TEST: PENSACOLA P.O.C. — AUDIT TYPE: 3
AUDITOR: SBM

MAXIMUM PERMIT RATE:	41.10	41.10	41.10		
MINIMUM TEST RATE:	10.30	10.30	10.30		
TEST OPERATING RATES:	10.80	11.30	11.30	TON	/HR
TEST EMISSIONS:	4.73 →	4.80 →	5.26 →	LBS CO →	/TON
EMISSION LIMITING STANDARD:	4.00	4.00	4.00	LBS CO	/TON

ESTIMATES.

STACK TEST DATA SUMMATION

			RUN1	RUN2	RUN3
1.	H2O	COLLECTED (IMPINGER), ML	277	285	286
2.	H2O	COLLECTED (SILICA GEL),GM	11.5	13	13.4
3.	MN	POLLUTANT WEIGHT, MG	10.09	10.64	11.75
4.	VM	VOLUME METERED, CFT	1	1	1
5.	Y	DRY GAS METER CAL FACTOR	1	1	1
6.	DP	AVG SQ RT OF DELTA P	.564	.566	.558
7.	DH	AVG DELTA H, IN H2O	2.013	2.03	2
8.	TM	AVG METER TEMPERATURE, R	550	565	565
9.	TS	AVG STACK TEMPERATURE, R	608	611	610
10.	PS	ABS STACK PRESSURE, IN HG	30.14	30.13	30.08
11.	PB	BAROMETRIC PRESSURE,IN HG	30.13	30.12	30.07
12.	AS	AREA OF STACK, SQ FT	26.725	26.725	26.725
13.	AN	AREA OF NOZZLE, SQ FT	.000528	.000528	.000528
14.	T	TOTAL TEST TIME, MIN	60	60	60
15.	CP	PITOT TUBE COEFFICIENT	.84	.84	.84
16.	%CO2		11.3	12	12.4
17.	%O2		8.7	8	7.8
18.	%CO		0	0	0
19.	%N2		80	80	79.8

RUN	STANDARD VOLUME DSCF	MOISTURE CONTENT PROPORTION	STACK VELOCITY F/SEC	FLOW RATE DSCF/HR	PERCENT ISO-KINETIC	ACTUAL EMISSIONS LBS/HR	ALLOWABLE EMISSIONS LBS/HR
1	0.971	0.239	34.8	2,230,871	2.2	51.10 EST.	41.10
*****VIOLATION******							
2	0.945	0.258	35.2	2,168,018	2.2	54.23	41.10
*****VIOLATION******							
3	0.943	0.252	34.6	2,166,602	2.2	59.49	41.10
*****VIOLATION******							
MEAN	0.953	0.249	34.9	2,194,163	2.2	54.94	41.10

9/17/[illegible] ~ 11:02 LFC

I called; in future may want to increase input.

I said Tal may require A-T-F PSD review.

LFC POWER SYSTEMS CORPORATION

September 13, 1993

Mr. Mort Benjamin
Florida Department of Environmental Protection
Northeast District
Suite B200
7825 Baymeadows Way
Jacksonville, FL 32256-7577

RE: Approval to Burn Scrap Paper Products

Dear Mr. Benjamin:

Attached for your convenience please find a copy of the FDEP approval letter for the Madison biomass facility to burn scrap paper products as "carbonaceous fuel" which is the allowed fuel under its operating air permit.

Also, as we discussed on the phone, this plant's sister facility will undergo testing next week in order to provide emission data for the Madison plant.

Should you have any questions regarding these items please call me at (503) 697-2360. Thank you for you time and attention.

Sincerely,

Myron Burr
Compliance Manager

Attachment

cc: Phoebe Scott, FDEP

MWB208.LTR

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

LFC POWER SYSTEMS CORPORATION

4000 KRUSE WAY PLACE
BUILDING ONE, SUITE 255
LAKE OSWEGO, OREGON 97035
PHONE: (503) 636-9620
FAX: (503) 697-0288

FAX COVER SHEET

DATE: 9/9/93

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME: Mr. Mort Benjamin

FIRM: Florida DEP

FAX: (904) 448-4366

FROM:

NAME: Myron Burr

TOTAL NUMBER OF PAGES (INCLUDING COVER SHEET): 3

ORIGINAL BEING MAILED YES ✓ NO _____

MESSAGE:

Dear Mr. Benjamin,

It was a pleasure to speak with you today on the phone. Regarding the DEP approval to burn scrap paper products, attached please find the departmental interpretation that these are considered a "carbonaceous fuel" that the Madison plant is allowed to use as fuel under its air permit. Regarding the Annual Operating Report emissions information, we appreciate your concurrence that test data from a sister facility will be adequate. Should you require additional information, please call me at (503) 697-2360.

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL (503) 636-9620 AS SOON AS POSSIBLE.

FAX.FRM1.JSM

LFC NO. 47 CORP.

Three R ior Corporate Center
Suite 400, 100 Matsonford Road
Radnor, Pennsylvania 19087-4574
Tel: (215) 964-2000
Fax: (215) 527-0170

August 27, 1993

Ms. Phoebe Scott
Northeast District
Florida Department of
Environmental Protection
7825 Baymeadows Way
Suite B-200
Jacksonville, FL 32256-7577

Mr. Ed Middleswart
Northwest District
Florida Department of
Environmental Protection
160 Governmental Center
Pensacola, FL 32501-5794

Re: **Signatory Authorization for Permit Nos. A040-179441 and A033-186821**

Dear Ms. Scott and Mr. Middleswart:

Until such time as you are otherwise notified in writing, the Director - Biomass and Geothermal Operations, LFC Power Systems Corporation, is authorized to sign all reports and information submitted to the Florida Department of Environmental Protection regarding the above-referenced air permits.

Authority to apply for amendments of permits, permit renewals or new permits may be made on a case-by-case basis, after review of any such application by an authorized officer of LFC No. 47 Corp. Any such grant of authority shall be in writing.

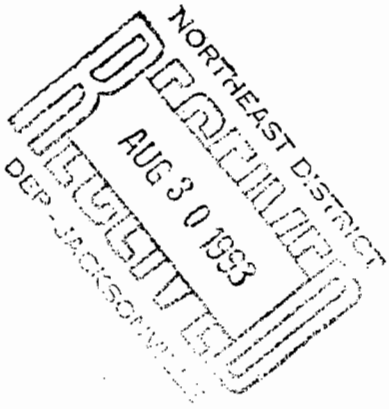
Sincerely,

LFC NO. 47 CORP.

By: _____
Henry A. Lyczak
Vice President

HAL/mkm

LFC POWER SYSTEMS CORPORATION



VIA FAX AND REGULAR MAIL
(904) 448-4366

August 23, 1993

Ms. Phoebe Scott
District Air Program Administrator
Northeast District
Florida Department of Environmental Regulation
Suite B200
7825 Baymeadows Way
Jacksonville, Florida 32256-7577

RE: Annual Air Operating Report for the Madison Biomass Facility

Dear Ms. Scott:

In response to your request for additional backup information for the Madison Annual Operating report, on behalf of LFC No. 47 Corp., attached please find:

1) A new annual report page 2 with a corrected fuel usage rate.

2) The calculations for annual particulate emissions

3) The calculations for annual SO_2, NO_x, VOC, and CO emissions based on the EPA standard emission factors that you provided us. Please note that these emission factors and the resulting calculated annual emissions are not based on test data, rather, simply on the standard unit rates that you suggested. A new annual report page 3 incorporating these values is also attached.

I will forward a letter confirming Mr. David J. Brown, Director of Biomass and Geothermal Operations, as the authorized representative for air permit reporting matters concerning the Madison Biomass Facility as soon as the appropriate signature is obtained.

Should you require additional information, please call me at (503) 697-2360.

Sincerely,

Myron Burr
Compliance Manager

Attachments

MWB197.LTR

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE PROCESS/FUEL INFORMATION (AIR050)

1a. SCC 'a'	2a. Description of Process or Type of Fuel	
	Carbonaceous Fuel	
3a. Annual Process or Fuel Usage Rate (SCC Units)		
56,874 Tons		
4a. Fuel Average % Sulfur	5a. Fuel Average % Ash	6a. Fuel Heat Content (mmBtu/SCC Units)
N/A	1.5% to 3%	9 MMBtu per Ton

1b. SCC 'b'	2b. Description of Process or Type of Fuel	
3b. Annual Process or Fuel Usage Rate (SCC Units)		
4b. Fuel Average % Sulfur	5b. Fuel Average % Ash	6b. Fuel Heat Content (mmBtu/SCC Units)

1c. SCC 'c'	2c. Description of Process or Type of Fuel	
3c. Annual Process or Fuel Usage Rate (SCC Units)		
4c. Fuel Average % Sulfur	5c. Fuel Average % Ash	6c. Fuel Heat Content (mmBtu/SCC Units)

1d. SCC 'd'	2d. Description of Process or Type of Fuel	
3d. Annual Process or Fuel Usage Rate (SCC Units)		
4d. Fuel Average % Sulfur	5d. Fuel Average % Ash	6d. Fuel Heat Content (mmBtu/SCC Units)

Shaded areas are for DER use.

Date: 8/23/93

ATTACHMENT 1

Annual Particulate Emissions Calculations

From Semi Annual Stack Test of October 17, 1992

Average Particulate Emission Rate = 15.9 lb/hr
Production during each test run = 6.9 MW

$$\frac{15.9 \text{ lb/hr}}{6.9 \text{ MW}} = 2.3043 \text{ lb/MWH}$$

Madison 1992 Production

26,155.6 MWH

$$26{,}155.6 \text{ MWH} \times \frac{2.3043 \text{ lb}}{\text{MWH}} \times \frac{\text{tons}}{2000 \text{ lb}} = 30.14 \text{ tons in 1992}$$

ATTACHMENT 2

Criteria Air Pollutants Annual Emissions Calculations

The following calculations use as a basis the emission factors provided to us by Ms. Phoebe Scott of the FDEP. These calculations are not based on test data.

SO_2 - Emission Factor = $\frac{0.15 \text{ lbs } SO_2}{\text{ton of fuel burned}}$

$$\frac{0.15 \text{ lbs}}{\text{ton of fuel}} \times \frac{56{,}874 \text{ tons of fuel}}{\text{year}} = \frac{4.27 \text{ tons } SO_2}{\text{year}}$$

NO_x - Emission Factor = $\frac{2.8 \text{ lbs } NO_x}{\text{ton of fuel burned}}$

$$\frac{2.8 \text{ lbs}}{\text{ton of fuel}} \times \frac{56{,}874 \text{ tons of fuel}}{\text{year}} = \frac{79.62 \text{ tons } NO_x}{\text{year}}$$

VOC - Emission Factor = $\frac{1.4 \text{ lbs VOC}}{\text{ton of fuel burned}}$

$$\frac{1.4 \text{ lbs}}{\text{ton of fuel}} \times \frac{56{,}874 \text{ tons of fuel}}{\text{year}} = \frac{39.81 \text{ tons VOC}}{\text{year}}$$

CO - Emission Factor = $\frac{4.0 \text{ lbs CO}}{\text{ton of fuel burned}}$

$$\frac{4.0 \text{ lbs}}{\text{ton of fuel}} \times \frac{56{,}874 \text{ tons of fuel}}{\text{year}} = \frac{113.75 \text{ tons CO}}{\text{year}}$$

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OPERATION REPORT - PAGE 3 & 4 (SOURCE REPORT 1 OF 1)

SOURCE DESCRIPTION: Carbonaceous Fuel

SOURCE EMISSIONS INFORMATION (AIR051)

1a. Pollutant 'a' ID	2a. Annual Emissions (ton/year)	3a. Emissions Method Code
PM	30.14	One

4a. Emissions Calculation

By test results - see attached calculation

1b. Pollutant 'b' ID	2b. Annual Emissions (ton/year)	3b. Emissions Method Code
SO_2	4.27 by calculation	3

4b. Emissions Calculation

see attached calculation

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code
NO_X	79.62 by calculation	3

4c. Emissions Calculation

see attached calculation

1d. Pollutant 'd' ID	2d. Annual Emissions (ton/year)	3d. Emissions Method Code
VOC	39.81 by calculation	3

4d. Emissions Calculation

see attached calculation

Shaded areas are for DER use.

bcc: David Brown, LFC
Harry George, LFC
Ted Sieckman, LFC
Paula Lausa, LFC

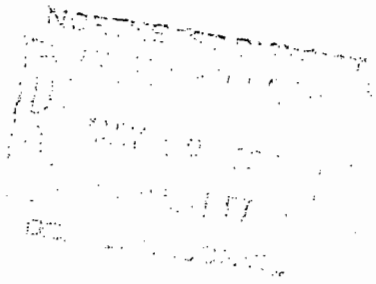
Spoke with Dave Brown on 7/22/93

Ted Sieckman called 7/26/93
He will send additional emissions + see about letter of authorization.

A test was run on 10/15/93 with results of
4.5 $\frac{lb\ CO}{Ton\ fuel}$
∴ # $\frac{4\ lb}{Ton\ fuel}$ from SCC not unrealistic

LFC POWER SYSTEMS CORPORATION

May 5, 1993



Mr. Andrew Kutyna
District Air Program Administrator
Northeast District
Florida Department of Environmental Regulation
Suite B200
7825 Baymeadows Way
Jacksonville, Florida 32256-7577

RE: 1992 Annual Operating Report for the Madison Biomass Facility

Dear Mr. Kutyna:

It has come to my attention that the 1992 Annual Operating Report that was submitted for our Madison facility may have been missing some pages because of the double-sided nature of the document. Therefore, attached please find a complete version of this report.

We apologize for any inconvenience this may have caused.

Sincerely,

Myron Burr
Compliance Manager

MWB137.LTR

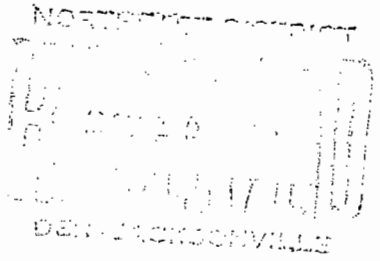
cc: Dave Brown (w/attachment)
Harry George (w/o attachment)
Ted Sieckman (w/attachment)

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

4000 Kruse Way Place
Building One, Suite 255
Lake Oswego, OR 97035
(503) 636-9620
FAX (503) 697-0288

VIA FEDERAL EXPRESS

April 13, 1993



Mr. Andrew Kutyna
District Air Program Administrator
Northeast District
Florida Department of Environmental Regulation
Suite B200
7825 Baymeadows Way
Jacksonville, Florida 32256-7577

RE: LFC No. 47 Corp Annual Operation Report

Dear Mr. Kutyna:

Enclosed please find the Annual Operations Reports for the Madison Biomass plant submitted on behalf of LFC No. 47 Corporation.

Should you have any questions please call Harry George at (904) 997-0515.

Sincerely,

David J. Brown
Director, Biomass and Geothermal Operations

Enclosure

MWB125.LTR

cc: Harry George (w/enclosure)
Myron Burr (w/enclosure)
Paula Lausa (w/o enclosure)

Florida Department of Environmental Regulation

Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DER Form 17-210.900(4)
Form Title Annual Operating Report
Effective Date March 1, 1993
DER Application No. _____
(Filled in by DER)

DIVISION OF AIR RESOURCES MANAGEMENT

ANNUAL OPERATING REPORT FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form 17-210.900(4).
(Note: Shaded fields on form are for DER use; please leave blank.)

REPORT INFORMATION

1. Year of Report	2. Date Report Received	3. Number of Sources in Report
1992		One

FACILITY INFORMATION (AIR020)

1. Facility APIS ID	2. Facility Status	3. Date of Permanent Facility Shutdown
31GVL40001101	Active	N/A

4. Facility Owner/Company Name
LFC No. 47 Corp.

5. Facility Name/Street Address or Location Description
Madison Biomass Plt, CR 591 1.5 mi N Madison

6. Facility City	County
North of Madison	Madison

7. Facility Compliance Tracking Codes	CDS	VOC

8. Facility Comment (60 Characters)

FACILITY HISTORY INFORMATION (AIR022)

1. Change in Facility Name During Year? No	Previous Name	2. Date of Change

Shaded areas are for DER use.

Date: 4/9/93

APIS ID	District	Office	County	Facility	INPUT

OWNER/CONTACT INFORMATION (AIR021)

1. Individual Owner or Authorized Representative

Name: David J. Brown
Director, Biomass & Geothermal Operations, LFC Power Systems Corporation

Organization/Firm:
as authorized representative of:
LFC No. 47 Corp.

Street Address or P.O. Box:
4000 Kruse Way Place
Building One, Suite 255

City	State	Zip
Lake Oswego	OR	97035

Telephone: (503) 636-9620

2. Facility Contact for Air Regulatory Matters

Name: Rod Mize

Organization/Firm:
LFC Power Systems Corporation

Street Address or P.O. Box:
Route 3, Box 40

City	State	Zip
Madison	FL	32340

Telephone: (904) 973-3180

CERTIFICATION

Statement by Owner or Authorized Representative

I hereby certify that the information given in this report is correct to the best of my knowledge.

Signature _____ Date 4/9/93

Shaded areas are for DER use.

DER Form 17-210.900(4) - Page B
Effective:

Date: _____

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OPERATION REPORT - PAGE 1 & 2 (SOURCE REPORT 1 OF 1)
FACILITY NAME: Madison Biomass Plant

SOURCE INFORMATION (AIR030)

1. Source Description		
Carbonaceous Fuel Boiler		
2. DER Permit or PPS Number	3. Source APIS ID	4. Source Status
A040-179441	31GVL40001101	A
5. Source Startup Date (MM/DD/YY)	6. Source Shutdown Date (MM/DD/YY)	
N/A	N/A	

SOURCE EMISSION POINT/CONTROL INFORMATION (AIR033)

1. Source Emission Point Type
One
2a. Description of Control Equipment 'a'
Multiclone (Joy Manufacturing Company Model 12-VM-35, size 50-5)
2b. Description of Control Equipment 'b'
Wet Scrubber (Perry Smith C-Model 80M)

SOURCE OPERATING SCHEDULE INFORMATION (AIR050)

1. Operated During Year?	2. Average Operation During Year	hour/day	day/week	3. Total Operation During Year (hour/year)	
Y		24	4.4	5,526	
4. Percent Hours of Operation by Season		DJF	MAM	JJA	SON
		1.2 %	30.2 %	34.3 %	34.3 %

Shaded areas are for DER use.

DER Form 17-210.900(4) - Page 1
Effective:

Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE PROCESS/FUEL INFORMATION (AIR050)

1a. SCC 'a'	2a. Description of Process or Type of Fuel	
	Carbonaceous Fuel	
3a. Annual Process or Fuel Usage Rate (SCC Units)		
44,464 Tons		
4a. Fuel Average % Sulfur	5a. Fuel Average % Ash	6a. Fuel Heat Content (mmBtu/SCC Units)
N/A	1.5% to 3%	9 MMBtu per Ton

1b. SCC 'b'	2b. Description of Process or Type of Fuel	
3b. Annual Process or Fuel Usage Rate (SCC Units)		
4b. Fuel Average % Sulfur	5b. Fuel Average % Ash	6b. Fuel Heat Content (mmBtu/SCC Units)

1c. SCC 'c'	2c. Description of Process or Type of Fuel	
3c. Annual Process or Fuel Usage Rate (SCC Units)		
4c. Fuel Average % Sulfur	5c. Fuel Average % Ash	6c. Fuel Heat Content (mmBtu/SCC Units)

1d. SCC 'd'	2d. Description of Process or Type of Fuel	
3d. Annual Process or Fuel Usage Rate (SCC Units)		
4d. Fuel Average % Sulfur	5d. Fuel Average % Ash	6d. Fuel Heat Content (mmBtu/SCC Units)

Shaded areas are for DER use.

Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OPERATION REPORT - PAGE 3 & 4 (SOURCE REPORT 1 OF 1)

SOURCE DESCRIPTION: Carbonaceous Fuel

SOURCE EMISSIONS INFORMATION (AIR051)

1a. Pollutant 'a' ID	2a. Annual Emissions (ton/year)	3a. Emissions Method Code
PM	30.14	One
4a. Emissions Calculation		
By test results		

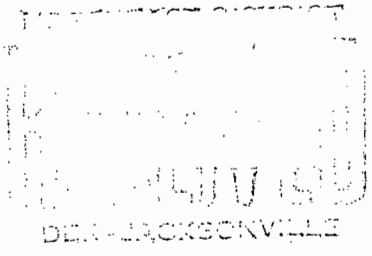
1b. Pollutant 'b' ID	2b. Annual Emissions (ton/year)	3b. Emissions Method Code
4b. Emissions Calculation		

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code
4c. Emissions Calculation		

1d. Pollutant 'd' ID	2d. Annual Emissions (ton/year)	3d. Emissions Method Code
4d. Emissions Calculation		

Shaded areas are for DER use.

DER Form 17-210.900(4) - Page 3
Effective:



Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE EMISSIONS INFORMATION (Continued)

1e. Pollutant 'e' ID	2e. Annual Emissions (ton/year)	3e. Emissions Method Code
4e. Emissions Calculation		

1f. Pollutant 'f' ID	2f. Annual Emissions (ton/year)	3f. Emissions Method Code
4f. Emissions Calculation		

1g. Pollutant 'g' ID	2g. Annual Emissions (ton/year)	3g. Emissions Method Code
4g. Emissions Calculation		

1h. Pollutant 'h' ID	2h. Annual Emissions (ton/year)	3h. Emissions Method Code
4h. Emissions Calculation		

5. Source Operation Report Comments

Shaded areas are for DER use.

Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OZONE-SIP REPORT - PAGE 5 & 6 (SOURCE REPORT 1 OF 1)

SOURCE DESCRIPTION: Carbonaceous Fuel

SOURCE OZONE-SIP PROCESS/FUEL INFORMATION (AIR052)

1. Existing 12/31/907	2. Average Operation for Ozone Season (June thru August)	hour/day	day/week

3a. SCC 'a'	4a. Description of Process or Type of Fuel	
5a. Daily Ozone Season Process or Fuel Usage Rate (SCC Units)		
6a. Emission Factor (lb/SCC Unit)	VOC	NOx
7a. Comments		

3b. SCC 'b'	4b. Description of Process or Type of Fuel	
5b. Daily Ozone Season Process or Fuel Usage Rate (SCC Units)		
6b. Emission Factor (lb/SCC Unit)	VOC	NOx
7b. Comments		

Shaded areas are for DER use.

DER Form 17-210.900(4) - Page 5
Effective:

Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OZONE SIP EMISSIONS INFORMATION (AIR053)

1a. Pollutant ID	2a. Ozone Season Emissions (lb/day)	3a. Emissions Method Code
VOC		

4a. Emissions Calculation

1b. Pollutant ID	2b. Ozone Season Emissions (lb/day)	3b. Emissions Method Code
NOx		

4b. Emissions Calculation

Shaded areas are for DER use.

Date: 4/9/93

4000 Kruse Way Place
Building One, Suite 255
Lake Oswego, OR 97035
(503) 636-9620
FAX (503) 697-0288

VIA FEDERAL EXPRESS

April 13, 1993

Mr. Andrew Kutyna
District Air Program Administrator
Northeast District
Florida Department of Environmental Regulation
Suite B200
7825 Baymeadows Way
Jacksonville, Florida 32256-7577

RE: LFC No. 47 Corp Annual Operation Report

Dear Mr. Kutyna:

Enclosed please find the Annual Operations Reports for the Madison Biomass plant submitted on behalf of LFC No. 47 Corporation.

Should you have any questions please call Harry George at (904) 997-0515.

Sincerely,

David J. Brown
Director, Biomass and Geothermal Operations

Enclosure

MWB125.LTR

cc: Harry George (w/enclosure)
Myron Burr (w/enclosure)
Paula Lausa (w/o enclosure)

Florida Department of Environmental Regulation

Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DER Form 17-210.900(4)
Form Title Annual Operating Report
Effective Date March 1, 1993
DER Application No. _____
(Filled in by DER)

DIVISION OF AIR RESOURCES MANAGEMENT

ANNUAL OPERATING REPORT FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form 17-210.900(4).
(Note: Shaded fields on form are for DER use; please leave blank.)

REPORT INFORMATION

1. Year of Report	2. Date Report Received	3. Number of Sources in Report
1992		One

FACILITY INFORMATION (AIR020)

1. Facility APIS ID	2. Facility Status	3. Date of Permanent Facility Shutdown
31GVL40001101	Active	N/A

4. Facility Owner/Company Name
LFC No. 47 Corp.

5. Facility Name/Street Address or Location Description
Madison Biomass Plt, CR 591 1.5 mi N Madison

6. Facility City	County
North of Madison	Madison

7. Facility Compliance Tracking Codes	CDS	VOC

8. Facility Comment (60 Characters)

FACILITY HISTORY INFORMATION (AIR022)

1. Change in Facility Name During Year? No	Previous Name	2. Date of Change

Shaded areas are for DER use.

Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OPERATION REPORT - PAGE 1 & 2 (SOURCE REPORT 1 OF 1)

FACILITY NAME: Madison Biomass Plant

SOURCE INFORMATION (AIR030)

1. Source Description		
Carbonaceous Fuel Boiler		
2. DER Permit or PPS Number	3. Source APIS ID	4. Source Status
A040-179441	31GVL40001101	A
5. Source Startup Date (MM/DD/YY)	6. Source Shutdown Date (MM/DD/YY)	
N/A	N/A	

SOURCE EMISSION POINT/CONTROL INFORMATION (AIR033)

1. Source Emission Point Type
One
2a. Description of Control Equipment 'a'
Multiclone (Joy Manufacturing Company Model 12-VM-35, size 50-5)
2b. Description of Control Equipment 'b'
Wet Scrubber (Perry Smith C-Model 80M)

SOURCE OPERATING SCHEDULE INFORMATION (AIR050)

1. Operated During Year?	2. Average Operation During Year	hour/day	day/week	3. Total Operation During Year (hour/year)	
Y		24	4.4	5,526	
4. Percent Hours of Operation by Season		DJF	MAM	JJA	SON
		1.2 %	30.2 %	34.3 %	34.3 %

Shaded areas are for DER use.

Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OPERATION REPORT - PAGE 3 & 4 (SOURCE REPORT 1 OF 1)

SOURCE DESCRIPTION: Carbonaceous Fuel

SOURCE EMISSIONS INFORMATION (AIR051)

1a. Pollutant 'a' ID	2a. Annual Emissions (ton/year)	3a. Emissions Method Code
PM	30.14	One

4a. Emissions Calculation
By test results

1b. Pollutant 'b' ID	2b. Annual Emissions (ton/year)	3b. Emissions Method Code

4b. Emissions Calculation

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code

4c. Emissions Calculation

1d. Pollutant 'd' ID	2d. Annual Emissions (ton/year)	3d. Emissions Method Code

4d. Emissions Calculation

Shaded areas are for DER use.

Date: 4/9/93

APIS ID	District	Office	County	Facility	Source	INPUT

SOURCE OZONE-SIP REPORT - PAGE 5 & 6 (SOURCE REPORT 1 OF 1)

SOURCE DESCRIPTION: Carbonaceous Fuel

SOURCE OZONE-SIP PROCESS/FUEL INFORMATION (AIR052)

1. Existing 12/31/90?	2. Average Operation for Ozone Season (June thru August)	hour/day	day/week

3a. SCC 'a'	4a. Description of Process or Type of Fuel	
5a. Daily Ozone Season Process or Fuel Usage Rate (SCC Units)		
6a. Emission Factor (lb/SCC Unit)	VOC	NOx
7a. Comments		

3b. SCC 'b'	4b. Description of Process or Type of Fuel	
5b. Daily Ozone Season Process or Fuel Usage Rate (SCC Units)		
6b. Emission Factor (lb/SCC Unit)	VOC	NOx
7b. Comments		

Shaded areas are for DER use.

Date: 4/9/93

Madison Co. - AP
LFC
Wood Boiler
OP revision request (Rec'd 5/24)

07-29-93

On 7/26 ~3:10 Ted S. asked status; I said will review in few days. This am ran AIRP09 for test & enf. history in APIS.

Tests not in APIS		Since current OP
PM	6	1
VE	12	4

Violation	% over allowable
03-06-91	281
11-20-86	100.7
03-12-86	205

Discussed w/ BL; he said
1. about test rpts, call SB
2. he agrees to keep heat input (rule basis)

Called SB; he said that due to ~~light~~ moisture ~~&~~ interference ~~VE not~~ (see label (n)) usually no VE test. ~~(E)~~

Madison Co. - AP
LFC
OP revisions request

07-29-93
Per APIS

	Test missed	Violations
PM	11-16-90	03-06-91
	11-16-89	11-20-86
	5-16-89	03-12-86
	11-16-88	
	5-16-88	
	11-16-85	
VE	05-16-93	
	11-16-92	
	05-16-92	
	11-16-90	
	05-11-90	
	89	
	89	
	88	
	88	
	87	
	87	
	11-16-86	

CAPITAL COST: A $ ..... B $ ..... ANNUALIZED CONTROL COST: $ .....

BEST AVAILABLE COPY

FACILITY SOURCE ID: 31GVL40001101

SOURCE POLLUTANT RECORD

****** POLLUTANT/CONTROL INFORMATION ******
POLLUTANT ID: PM = PARTICULATE MATTER % EFF: 98 . 0
PRI: 001 = WET SCRUBBER HIGH EFF SEC: 007 = CENT COL HIGH EFF
***** EMISSION INFORMATION *****
EMISSION FACTOR: .... UNITS: ..... REF: APPLICAT'N
POTENTIAL EMISSION: 00024 . 6500 (LB/HR) .... (TON/YR)
ESTIMATED EMISSION: 000080 . 0000 (TON/YR) EST CODE: * = **********
ACTUAL EMISSION: 000030 . 1400 (TON/YR) AOR CODE: * AOR YR: 92
ALLOWABLE EMISSION: 00024 . 6500 (LB/HR) 000099 . 0000 (TON/YR)
ALLOWABLE EMISSION: ....(.....) OTHER UNIT
PROTECTION CODE: RULE600 = SPEC SRCE EMISS LIMIT STD CEM?: N (Y OR N)
TEST FREQUENCY: 6 = EVERY 6 MONTHS FREQUENCY BASE DATE: 05 / 16 / 90
COMMENT: 7/22/91 CHNG 008/002 TO 001/007 SBM

SOURCE TEST RECORD

CURRENT TEST DATE: 03 / 25 / 93 NEXT TEST DATE: 11 (05) / 16 / (93)
TEAM NAME: AIR ENGINEERING DIVISION/PSI
MAX PROCESS RATE: ..... ACTUAL: 0000130 UNITS: MMBTU/HR
MAX PRODUCTION RATE: ..... ACTUAL: 7 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00024 . 650000 TEST ACT EMIS: 00015 . 140000
UNITS: ..... AUDIT TYPE: 2 = TYPE II-PARTIAL SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 038 . 58 SIGN: -
COMMENTS: 130MMBTU/HR, 97-167MG, 34SCF, 28KDSCFM, 607R, 5.4%02
83K #/HR STEAM, 7.2MW. DER ENGINEER ADVISED LFC PERSONNEL TO
INSTALL GUAGE TO READ PRESSURE DROP ACROSS WET SCRUBBER

E_A (test) = 24.30

62.5%

SOURCE TEST RECORD

CURRENT TEST DATE: 10 / 07 / 92
NEXT TEST DATE: 03 / 06 / 93
TEAM NAME: AIR ENGINEERING DIVISION/PSI, GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0000160 UNITS: MMBTU/HR
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00024 . 650000 TEST ACT EMIS: 00015 . 900000
UNITS: ..... AUDIT TYPE: 1 = TYPE I-COMPLETE SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 035 . 49 SIGN: -
COMMENTS: FIRING RATE % 28000 LB/HR 28-107MG 43SCF 33KDSCFM 60/K 33%

64.6%

PERMITTED HEAT INPUT 138.18 MMBTU/HR.

BEST AVAILABLE COPY

FACILITY SOURCE ID: 316VL40001101

SOURCE TEST RECORD

CURRENT TEST DATE: 04 / 15 / 92 NEXT TEST DATE: 09 / 06 / 92
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0028809 UNITS: LB/HR
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00024 . 650000 TEST ACT EMIS: 00020 . 100000
UNITS: ..... AUDIT TYPE: 3 = TYPE III-STACK TEST REVIEW
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 018 . 45 SIGN: -
COMMENTS: 149-231MG, 51SCF, 32KDSCFM, 608R, 22% H20, 067% O2
80K #/HR STEAM, 7.0 MEGAWATTS, PRESS. DROP 6-7 IN.
.....

81.5% of E_A

SOURCE TEST RECORD

CURRENT TEST DATE: 09 / 12 / 91 NEXT TEST DATE: 03 / 06 / 92
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0028000 UNITS: UNITU
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00024 . 650000 TEST ACT EMIS: 00021 . 050000
UNITS: ..... AUDIT TYPE: 3 = TYPE III-STACK TEST REVIEW
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 014 . 60 SIGN: -
COMMENTS: 156-205MG 34SCF,26F/SES,28KDSCFM,605R,22 % H20,06 % O2
71K #/HR STEAM, 6.6 MEGAWATTS, PRESS. DROP 8 IN.
.....

E_A(Init) = 23.41
89.9% of EA

SOURCE TEST RECORD

CURRENT TEST DATE: 04 / 12 / 91 NEXT TEST DATE: 03 / 06 / 92
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0028000 UNITS: UNITU
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00023 . 620000 TEST ACT EMIS: 00018 . 400000
UNITS: ..... AUDIT TYPE: 3 = TYPE III-STACK TEST REVIEW
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 022 . 09 SIGN: -
COMMENTS: 148-171MG 42SCF,34F/SES,35KDSCFM,618R,20 % H20,06 % O2
71K #/HR STEAM, 6.6 MEGAWATTS, PRESS. DROP 7-8 IN.

77.9%

BEST AVAILABLE COPY

FACILITY SOURCE ID: 316VL40001101

SOURCE TEST RECORD

CURRENT TEST DATE: 03 / 06 / 91 NEXT TEST DATE: 03 / 06 / 92
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0028000 UNITS: UNITU
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? N (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00000 . 181000 TEST ACT EMIS: 00000 . 509000
UNITS: ..... AUDIT TYPE: 3 = TYPE III-STACK TEST REVIEW
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 181 . 21 SIGN: +
COMMENTS: 36-57MG,29-45SCF,34F/SES,35KDSCFM,670R,20 % H20,10 % 02
74K #/HR STEAM, 7.0 MEGAWATTS, PRESS. DROP 4-6 IN.
.....

SOURCE TEST RECORD

CURRENT TEST DATE: 02 / 14 / 90 NEXT TEST DATE: 11 / 16 / 90
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0028000 UNITS: UNITU
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00000 . 181000 TEST ACT EMIS: 00000 . 146000
UNITS: ..... AUDIT TYPE: 2 = TYPE II-PARTIAL SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 019 . 33 SIGN: -
COMMENTS: 6.6MEGAWATTS OUTPUT, 77000 LB/HR STEAM LOAD, 420 PSI STEAM
PRESSURE, 3.5-4 IN OF H20 -PRES DROP ACROSS SCRUBBER
22.1 LB/HR

SOURCE TEST RECORD

CURRENT TEST DATE: 12 / 09 / 87 NEXT TEST DATE: 05 / 09 / 88
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0028000 UNITS: UNITU
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00024 . 650000 TEST ACT EMIS: 00014 . 490000
UNITS: ..... AUDIT TYPE: 2 = TYPE II-PARTIAL SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 041 . 21 SIGN: -
COMMENTS: 66000 LB/HR STEAM LOAD, 6.2 MW

BEST AVAILABLE COPY

FACILITY SOURCE ID: 31GVL40001101

SOURCE TEST RECORD

CURRENT TEST DATE: 05 / 27 / 87 NEXT TEST DATE: 11 / 16 / 90
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI GREENVILLE, SC
MAX PROCESS RATE: ..... ACTUAL: 0028000 UNITS: UNITU
MAX PRODUCTION RATE: ..... ACTUAL: 0000007 UNITS: MW
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00000 . 181000 TEST ACT EMIS: 00000 . 169000
UNITS: ..... AUDIT TYPE: 3 = TYPE III-STACK TEST REVIEW
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 006 . 62 SIGN: -
COMMENTS: 82000 LB/HR STEAM LOAD, 6.8 MW
.....
.....

SOURCE TEST RECORD

CURRENT TEST DATE: 11 / 20 / 86 NEXT TEST DATE: 05 / 16 / 87
TEAM NAME: AIR ENGINEERTING DIV.,PSI
MAX PROCESS RATE: ..... ACTUAL: ..... UNITS: .....
MAX PRODUCTION RATE: ..... ACTUAL: ..... UNITS: .....
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? N (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00019 . 440000 TEST ACT EMIS: 00019 . 570000
UNITS: ..... AUDIT TYPE: 1 = TYPE I-COMPLETE SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 000 . 66 SIGN: +
COMMENTS: 107MMBTU HEAT INPUT 5.3 %02 1383805 DSCFH 630R
107/136 TEST AT 79% OF PERMIT OPERASTING RATE
.....

SOURCE TEST RECORD

CURRENT TEST DATE: 05 / 21 / 86 NEXT TEST DATE: 11 / 16 / 86
TEAM NAME: 2 PALMER SERVICES INC GREENVILLE SC
MAX PROCESS RATE: ..... ACTUAL: ..... UNITS: .....
MAX PRODUCTION RATE: ..... ACTUAL: 0000122 UNITS: OTHER
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? . (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00022 . 140000 TEST ACT EMIS: 00020 . 580000
UNITS: ..... AUDIT TYPE: 1 = TYPE I-COMPLETE SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: ... . .. SIGN: .
COMMENTS: .....
.....
.....

BEST AVAILABLE COPY

FACILITY SOURCE ID: 316VL40001101

SOURCE TEST RECORD

CURRENT TEST DATE: 03 / 12 / 86 NEXT TEST DATE: 11 / 16 / 86
TEAM NAME: 2
MAX PROCESS RATE: ..... ACTUAL: ..... UNITS: .....
MAX PRODUCTION RATE: ..... ACTUAL: 0000140 UNITS: OTHER
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? . (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00025 . 340000 TEST ACT EMIS: 00050 . 570000
UNITS: ..... AUDIT TYPE: . = ...
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: ... . .. SIGN: .
COMMENTS: 2
.....
.....

SOURCE TEST RECORD

CURRENT TEST DATE: 05 / 16 / 85 NEXT TEST DATE: 11 / 16 / 86
TEAM NAME: 2
MAX PROCESS RATE: ..... ACTUAL: ..... UNITS: .....
MAX PRODUCTION RATE: ..... ACTUAL: 0030283 UNITS: OTHER
POLLUTANT ID: PM = PARTICULATE MATTER TEST PASS? . (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000 UNITS: LB/HR
TEST ALLOW EMIS: 00023 . 660000 TEST ACT EMIS: 00018 . 080000
UNITS: ..... AUDIT TYPE: . = ...
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: ... . .. SIGN: .
COMMENTS: .....
.....
.....

SOURCE VE INFORMATION RECORD

***** VE INFORMATION *****
POLLUTANT ID: VE = VISIBLE EMISSIONS
ALLOW % OPACITY: NORMAL: 030 EXCEPT: 040 TIME: 002 (MIN)
REG CODE: RULE600 = SPEC SRCE EMISS LIMIT STD CEM ? N (Y OR N)
TEST FREQ: 6 = EVERY 6 MONTHS FREQ BASE DATE: 05 / 16 / 90

COMMENTS: .....
.....
.....

BEST AVAILABLE COPY

FACILITY SOURCE ID: 316VL40001101

SOURCE VE TEST RECORD

***** VE TEST INFORMATION *****
CURRENT TEST DATE: 09 / 12 / 91 NEXT TEST DATE: 03 / 16 /-92
OBSERVER NAME: G MUELLER)
TEST LENGTH: 030 (MIN) TEST PASS ? Y (Y OR N)
TEST % OPACITY: NORMAL: 015 EXCEPT: ... TIME: ... (MIN)
COMMENTS: 66,000 # STEAM,6.2 MEGAWATTS,8.5 IN PRESSURE DROP
.....
PREVIOUS VE 910612 900214 860521

SOURCE VE TEST RECORD

***** VE TEST INFORMATION *****
CURRENT TEST DATE: 06 / 12 / 91 NEXT TEST DATE: 11 / 16 / 91
OBSERVER NAME: MB DER)
TEST LENGTH: 030 (MIN) TEST PASS ? Y (Y OR N)
TEST % OPACITY: NORMAL: 015 EXCEPT: ... TIME: ... (MIN)
COMMENTS: 71,000 # STEAM,6.6 MEGAWATTS,6.5 IN PRESSURE DROP
.....
.....

SOURCE VE TEST RECORD

***** VE TEST INFORMATION *****
CURRENT TEST DATE: 02 / 14 / 90 NEXT TEST DATE: 11 / 16 / 90
OBSERVER NAME: ED PICKELSIMER (PSI)
TEST LENGTH: 030 (MIN) TEST PASS ? Y (Y OR N)
TEST % OPACITY: NORMAL: 015 EXCEPT: ... TIME: ... (MIN)
COMMENTS: .....
.....
.....

SOURCE VE TEST RECORD

***** VE TEST INFORMATION *****
CURRENT TEST DATE: 05 / 21 / 86 NEXT TEST DATE: 11 / 16 / 90
OBSERVER NAME: 3
TEST LENGTH: ... (MIN) TEST PASS ? . (Y OR N)
TEST % OPACITY: NORMAL: 012 EXCEPT: ... TIME: ... (MIN)
COMMENTS: .....
.....

BEST AVAILABLE COPY

FACILITY SOURCE ID: 31GVL40001101

SOURCE VE TEST RECORD

***** VE TEST INFORMATION *****
CURRENT TEST DATE: 01 / 20 / 86 NEXT TEST DATE: 11 / 16 / 86
OBSERVER NAME: 1
TEST LENGTH: ... (MIN) TEST PASS ? . (Y OR N)
TEST % OPACITY: NORMAL: 015 EXCEPT: ... TIME: ... (MIN)
COMMENTS: .....
.....
.....

SOURCE VE TEST RECORD

***** VE TEST INFORMATION *****
CURRENT TEST DATE: 05 / 16 / 85 NEXT TEST DATE: 11 / 16 / 86
OBSERVER NAME: 2
TEST LENGTH: ... (MIN) TEST PASS ? . (Y OR N)
TEST % OPACITY: NORMAL: 016 EXCEPT: ... TIME: ... (MIN)
COMMENTS: .....
.....
.....

MAJOR SOURCE VIOLATION TRACKING SCREEN

***** VIOLATION INFORMATION *****
DATE OF ACTUAL VIOLATION: 03 / 06 / 91 DATE REPORTED TO EPA: ../../..
REGULATION IN VIOLATION: 17-2.600(10)(B)2.B.,FAC
TYPE OF VIOLATION: INSP . VE TEST . STACK TEST X OTHER .
POLLUTANT IDS: PM ... ...
COMPLIANCE STATUS: 1 = VIOLATION W/RGRD EMISS
TYPE OF VIOLATOR: SIGNIFICANT . OR MAJOR X INSP LEVEL: . = ...
DAY '0': .. / .. / .. DAY '90': ../../.. DAY '120': ../../..
COMMENTS: .....
.....
.....
AGENCY: .... = ...
DATE CO/FO SIGNED: .. / .. / ..
IN COMPLIANCE DATE: .. / .. / .. NEXT INSP DUE DATE: 03 / 06 / 92
METHOD OF COMPLIANCE: INSP . VE TEST . STACK TEST . OTHER .

LFC POWER SYSTEMS CORPORATION

May 21, 1993

Mr. ~~Robert S. Pace~~, P.E.
Chief, Air Quality
Florida Department of Environmental Regulation
Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Ref: Request for a Letter Amendment to the Air Operation Permit
Madison County - Madison Biomass Plant
DER Permit No.: A040-179441
I. D. Number: 31GVL40001101

Dear Mr. ~~Pace~~:

LFC No. 47 Corporation owns two nearly identical plants in Florida, the Madison County facility (Air Permit I.D. No. 31GVL40001101) and the Jefferson County facility (Air Permit I.D. No. 10TLH33000101). Both plants are managed by the same individual whose responsibilities include compliance monitoring.

Back in the early 1980's when the plants were built, the air permits for the plants were the same. Particulate Matter continues to be monitored at both plants; however, the Jefferson County facility is now controlled by a limit of 90,000 lbs./hour of steam (see Jefferson County Air Permit) in lieu of the original permit level of 136.18 MMBtu/hour of fuel input (the original level for both plants). This steam flow monitoring by instruments is a superior technique of control when compared with controls for wood fuel feed systems. (Wood fuel is laboratory tested for Btu values, but the fuel actually being fed to the boiler is only an approximate value of the laboratory test results. Also, recorded input tons of fuel are approximate due to varying moisture contents, densities, etc.) It is, therefore, requested that the 90,000 lbs./hour of steam maximum limitation be applied to the Madison County facility in lieu of the current 136.18 MMBtu/hour input maximum.

Additionally, every particulate matter emission test (15 in total - 3 test runs during each of 5 different test dates) and visible emission test since the April 12, 1991 test (over two years ago) has been below the permitted emission rate of 24.65 lbs./hour and 30% opacity. Therefore, it is also requested that particulate and visible emission testing return to every 12 months in lieu of the current permit requirement of every 6 months.

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

In summary, it is requested that a letter amendment be issued by the DER changing the Madison County air permit by adding a steam limit of 90,000 lbs./hour and removing the fuel input limit of 136.18 MMBtu/hour, and by changing the test requirement to every 12 months. No other change is requested. Particulate matter emission limit and other requirements would remain the same.

If you have any questions, please feel free to contact me at (503) 697-0262. Thank you for your consideration.

Sincerely,

Ted Sieckman

T. K. Sieckman, P.E.
Manager-Operation and Development Administration

TKS284.Let

cc: D. Brown
H. Lyczak
M. Burr
H. George

3/2/93

sent rules & forms

17-296 app

-297

-4

LFC POWER SYSTEMS CORPORATION

January 14, 1993

Mr. Johnny Cole
Dept. of Environmental Regulation
7825 A Meadows Way, Suite 200B
Jacksonville, Florida 32256-7577

RE:Madison Facility
Permit/Certification no# A040-179441

Dear Mr. Cole:

As we discussed in our recent telephone conversation, we are interested in constructing and installing a "charburner" to reduce the generation of our ash at the Madison Facility.

If I understand our discussion, you stated that we would not require an Air Permit modification for this unit, on the other hand, we will be required to obtain a construction permit for this unit after which our Air Permit will be amended since emission levels will not change.

Please kindly furnish any permit forms required for the construction of the charburner.

Sincerely,

Dennis Konnick
LFC PSC EastCoast Biomass Manager

DK/bb

cc: Dave Brown

Route 3, Box 40 • Madison, Florida 32340
Phone: (904) 973-3180 • FAX: (904) 973-3182

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)	Initial / Date
Johnny Cole	
2. DEP – Jax	Initial / Date
3.	Initial / Date
4.	Initial / Date

REMARKS:

Please mail Mr. Dennis Konnick of LFC, an application for a construction permit. See letter attached.

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: Shannon Barrich GBO

DATE: 6/15/93

PHONE

LFC POWER SYSTEMS CORPORATION

November 19, 1992

Mr. Shanon Baruch
Air Program Administrator
Florida Department of Environmental Regulations
Northeast District
5700 SW 34th Street, Suite 12
Gainesville, Florida 32608

RE: Madison Facility
Permit/Certification Number A040-179441

Dear Mr. Baruch:

As we have discussed, we are interested in burning paper products at the Madison facility. As you are aware, the Madison facility is a 7.5MW steam electrical generation boiler. The facility utilizes a carbonaceous fuel boiler and, in accordance with the Permit, is fueled by bark and waste wood, including agricultural waste. We understand that, in addition to agricultural waste, paper constitutes a form of wood waste, and accordingly is permitted as a carbonaceous fuel by the terms of the Permit.

In light of the fact that the facility has not previously burned scrap paper products, we expect to conduct testing to confirm that the facility will continue to be in compliance with Articles 16 and 17 of the Permit regarding the particulate emissions and opacity. We expect to test burn scrap paper products at the plant at a rate of up 50% BTU replacement. All testing will be conducted in accordance with the requirements of Article 18 of the Permit (or only EPA 5 method?). The Department shall be notified at least 15 days prior to testing, should it be interested in witnessing the tests. The testing will be conducted by PSI of Greenville, South Carolina; test results shall be submitted to the DER for review.

Route 3, Box 40 • Madison, Florida 32340
Phone: (904) 973-3180 • FAX: (904) 973-3182

If the aforementioned meets with your approval, please kindly acknowledge by executing this letter where indicated. However this letter is unresponsive or inaccurate in any way, please let us know at your earliest convenience. Thank you for your assistance in this matter.

Sincerely,

Dennis Konnick
East Coast Biomass
Operations Manager

Konn.der

Acknowledged By:
Florida Department of
Environmental Regulations

By:_____

Title:_____

February 4, 1992

Mr. Andy Kutyna
State of Florida
Department of Environmental Regulations
Northeast District
3426 Bills Road
Jacksonville, Fl. 32207

RE: LFC No. 47 Corp.
Madison Annual Operation Report
ID No. 31gv140001101
Permit/Cert No. A040-179441

Dear Andy,

Per my telephone conversation with Ernest Frey on January 27, 1992 the Madison facility was shut down commencing 12/23/91 due a failure of the main transformer. As a result we are unable to perform the emission test required by the captioned permit as it was scheduled for 3/18/92. We understand that the requirement to perform this test will be waived by FDER until such time as the facility is operational. If this understanding is incorrect please advise us promptly so we may discuss with you the consequence of this plant outage.

We expect the facility will be returned to operational condition sometime in April or May and we are interested in rescheduling a new deadline for submission of the emission testing and a new schedule for biannual testing every 6 months thereafter. Please contact us to discuss the appropriateness of revising the scheduled testing and submission of the reports.

Thank you for your kind assistance.

Sincerely,

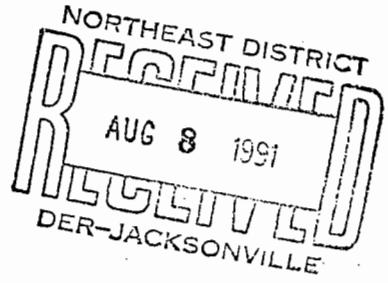
Dean Buchanan
Operations Supervisor

DB/jm

cc: Dave J. Brown
Dennis Konnick
Paula A. Lausa

LFC POWER SYSTEMS CORPORATION

July 30, 1991



Mr. Stanley B. Mazur
Florida Department of Environmental
Regulation
7825 Baymeadows Way
Suite 200B
Jacksonville, Florida 32256 - 7577

RE: Madison Plant
ID# 31GVL40001101

Dear Mr. Mazur:

LFC Power Systems has scheduled some modification to the Combustion Air Distribution Systems for mid August at its plant operated in Madison, Florida. The modification will increase the size of the Overfire Air Fan which will permit better distribution of combustion air, and therefore improve fuel burn out.

We will schedule stack testing for early September, consistent with our permit conditions. You will receive notification of specific date and time as soon as I have a schedule. If you have any questions regarding the work being done, please contact me at 904-997-0515 (Monticello) or 904-973-3180 (Madison)

Sincerely,

Bruce Shaw
Plant Manager

BS/bb

Route 3, Box 40 • Madison, Florida 32340
Phone: (904) 973-3180 • FAX: (904) 973-3182

Florida Department of Environmental Regulation
Northeast District • Suite 200, 7825 Baymeadows Way • Jacksonville, Florida 32256-7577 • 904-448-4300
Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Ernest Frey, Deputy Assistant Secretary

January 31, 1991

Mr. Bruce Shaw, Plant Manager
LFC
Power Systems Corporation
Rt. 1, Box 38
Monticello, Florida 32344

Dear Mr. Shaw:

Madison County - AF
LFC Power Systems Corp.
Wood Boiler
AO40-17944/31GVL40001101

Your reference to Specific Condition 6 requiring testing every six months is the key to our problem. The last test in November has not been accepted. A retest in February is required to meet the requirements of the permit. Please notify the Department 14 days prior to the date of the test.

The Fuel Factor you mentioned, 9280 will be satisfactory.

Sincerely,

Andrew G. Kutyna, P.E.
District Air Program
Administrator

AGK:MB:bt

cc: S. Baruch

January 30, 1991

Andy:

RE: LFC

I. Test to be re-run
Test results were borderline and limited data made it difficult to determine compliance.

I believe we should hold line on this decision. Whole history of plant is of borderline results.

II. F Factor
Determination of F Factor was discussed with Mr. Picklesimer and we have no problem with the value of 9280.

III. Gas Meter Data
Mr. Picklesimer will provide gas volume data on future tests.

Discussion:
Permit requires PM, VE every 6 months from 5/16/90. Last test was for November.

If we allow next test to be May, we will be in violation of permit.

SHORT: LFC appears to want to cooperate. At this point we probably don't need enforcement. Let's plan on testing in Feb as you recommended. State your last sentence in the response. I would suggest we do an audit on this upcoming test -

LFC POWER SYSTEMS CORPORATION

JANUARY 21,1991

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
NORTHEAST DISTRICT
SUITE 200
7825 BAYMEADOWS WAY
JACKSONVILLE, FL. 32256-7577

ATTN: ANDREW G. KUTYNA P.E.
DISTRICT AIR PROGRAM ADMINISTRATOR

ID NO. A040-179441/31GVL40001101

DEAR MR. KUTYNA:

WE ARE IN RECEIPT OF YOUR LETTER TO MR. PATRICK J. McALLISTER, DATED JANUARY 3, 1991 REGARDING THE STACK TEST REPORT SUBMITTED TO YOUR OFFICE FOR THE WOOD FIRED BOILER OPERATED BY LFC POWER SYSTEMS CORPORATION IN MADISON COUNTY. WE APOLOGIZE FOR ANY INCONVENIENCE YOU HAVE BEEN CAUSED IN REVIEWING THE MADISON PLANT TEST RESULTS. WE HAVE DISCUSSED YOUR CONCERNS WITH ED PICKLESIMER, PHD,P.E. OF PSI ENVIRONMENTAL ENGINEERING DIVISION, WHO PERFORMED THE TEST AS REPORTED TO YOUR AGENCY. AS YOU ARE PROBABLY AWARE, MR. PICKLESIMER HAS BEEN PREPARING TEST RESULTS FOR THIS FACILITY FOR SOME TIME AND HAS A HIGH DEGREE OF FAMILIARITY WITH THE FACILITY PLANT AND IT'S EMISSIONS.

WE UNDERSTAND FROM MR. PICKLESIMER THAT HE HAS SPOKEN WITH DER STAFF SINCE RECEIVING YOUR LETTER AND THAT IT HAS BEEN AGREED THAT THE INFORMATION SUBMITTED WAS ADEQUATE FOR YOUR PURPOSES EVEN THOUGH IT DID NOT INCLUDE METER DATA. IN THE FUTURE TESTS, GAS METER READING WILL BE SUBMITTED WITH THIS DATA.

YOU HAVE ALSO RAISED AN ISSUE ON THE APPROPRIATENESS OF THE 9280 SCF/MMBTU F FACTOR. WE UNDERSTAND THAT THIS FIGURE WAS DEVELOPED BY THE PRIOR OWNER BASED ON ACTUAL ANALYSIS. ACCORDING TO MR. PICKLESIMER, THE F FACTOR OF 9280 SCF/MMBTU HAS BEEN CONSISTENTLY USED IN CALCULATING THE PLANT EMISSIONS TEST. WE HAVE BEEN ADVISED THAT THE FACTOR WAS DEVELOPED BASED ON THE ACTUAL FUEL BLEND OF WOOD CHIPS WITH SMALL AMOUNTS OF PEANUT SHELLS AND BARK. THAT MIX IS CONSISTENT WITH CURRENT FUEL SUPPLIES AT THE FACILITY. BASED IN THIS INFORMATION, WE BELIEVE THAT 9280 WAS THE CORRECT FIGURE TO APPLY.

SPECIFIC CONDITION #6 OF THE OPERATING PERMIT REQUIRES THIS FACILITY TO RETEST EVERY SIX MONTHS. THE NEXT TEST IS BEING SCHEDULED FOR MID MAY.

Route 1, Box 38 • Monticello, Florida 32344
Phone: (904) 997-0515 • FAX: (904) 997-2974

LFC POWER SYSTEMS CORPORATION

YOU HAVE ASKED US TO RETEST AND WE REQUEST YOU GIVE CONSIDERATION TO RETESTING IN MAY, AS OPPOSED TO TESTING AGAIN IN LATE FEBRUARY. IF WE CAN PROVIDE ANY FURTHER INFORMATION, PLEASE DON'T HESITATE TO CONTACT US. WE WILL LOOK FORWARD TO HEARING YOUR DECISION REGARDING THE ACCEPTABILITY OF THE SUBMITTAL AND THE NEED FOR RETESTING AT THIS TIME. I CAN BE REACHED AT (904)997-0515.

SINCERELY,

Bruce Sh

BRUCE SHAW
PLANT MANAGER

BS/jm

Route 1, Box 38 • Monticello, Florida 32344
Phone: (904) 997-0515 • FAX: (904) 997-2974

```
AIR041 31GVL40001101 F   021490   AIR PROGRAM INF  MATION SYSTEM          12/17/90
                                   SOURCE TES  RECORD                    09:56:55
FACIL: OWN: LFC NO. 47 CORP.     N/L: CR 591, 1.5 MI N    LAST UPDATED: 05/23/90
     # SRC: 001  MAJOR FAC: N   CITY: .................     STATUS: A = ACTIVE
SOURC DESC: BOILER (CARBONACEOUS FUEL) W/MULTICHONE & VENTURI SCRUBBER
PERMIT/PPS: A040-179441              MAJOR SRC: .            STATUS: A = ACTIVE
 NSPS: ...    NESHAP: ...   111D: ...   PSD: ...   NAA/NSR: ...   RACT: ...

CURRENT TEST DATE: 02 / 14 / 90          NEXT TEST DATE: 11 / 16 / 90
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI  GREENVILLE, SC
   MAX PROCESS RATE: .......  ACTUAL: 0028000   UNITS: UNITU
MAX PRODUCTION RATE: .......  ACTUAL: 0000007   UNITS: MW
POLLUTANT ID: PM  = PARTICULATE MATTER                 TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000       UNITS: LB/HR
TEST ALLOW EMIS: 00000 . 181000    TEST ACT EMIS: 00000 . 146000
UNITS: LB/MBTU                  AUDIT TYPE: 2 = TYPE II-PARTIAL SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 019 . 33 SIGN: -
COMMENTS: 6.6MEGAWATTS OUTPUT, 77000 LB/HR STEAM LOAD, 420 PSI STEAM
          PRESSURE, 3.5-4 IN OF H2O -PRES DROP ACROSS SCRUBBER
          22.1 LB/HR


AIR041 31GVL40001101 PM  120987   AIR PROGRAM INFORMATION SYSTEM          12/17/90
                                   SOURCE TEST RECORD                     09:58:30
FACIL: OWN: LFC NO. 47 CORP.     N/L: CR 591, 1.5 MI N    LAST UPDATED: 05/23/90
     # SRC: 001  MAJOR FAC: N   CITY: .................     STATUS: A = ACTIVE
SOURC DESC: BOILER (CARBONACEOUS FUEL) W/MULTICHONE & VENTURI SCRUBBER
PERMIT/PPS: A040-179441              MAJOR SRC: .            STATUS: A = ACTIVE
 NSPS: ...    NESHAP: ...   111D: ...   PSD: ...   NAA/NSR: ...   RACT: ...

CURRENT TEST DATE: 12 / 09 / 87          NEXT TEST DATE: 05 / 09 / 88
TEAM NAME: ENVIRONMENTAL ENGINEERING DIVISION, PSI  GREENVILLE, SC
   MAX PROCESS RATE: .......  ACTUAL: 0028000   UNITS: UNITU
MAX PRODUCTION RATE: .......  ACTUAL: 0000007   UNITS: MW
POLLUTANT ID: PM  = ...............................    TEST PASS? Y (Y OR N)
PERMIT ALLOWABLE EMIS: 00024 . 650000       UNITS: LB/HR
TEST ALLOW EMIS: 00024 . 650000    TEST ACT EMIS: 00014 . 490000
UNITS: LB/HR                    AUDIT TYPE: 2 = TYPE II-PARTIAL SRC TEST AUDIT
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: 041 . 21 SIGN: -
COMMENTS: 66000 LB/HR STEAM LOAD, 6.2 MW
```

```
AIR030 316VL40001101      AIR PROGRAM INFORMATION ( )TEM                    12/17/90
                            SOURCE INFORMATION SCREEN                       09:55:05
FACIL: OWN: LFC NO. 47 CORP.      N/L: CR 591, 1.5 MI N  SOURCE UPDATED: 07/31/90
     # SRC: 001   MAJOR FAC? N    CITY: .................     STATUS: A = ACTIVE

          *****     CONSTRUCTION PERMIT/PPS INFORMATION     *****
   PERMIT #: _____ - ________   PPS #: _____ - __    FEE PAID: _____ (PERMIT ONLY)
DATE ISSUED: __ / __ / __      DATE EXPIRES: __ / __ / __     HISTORY? _  (Y OR N)
                *****     OPERATION PERMIT INFORMATION     *****
   PERMIT #: A040 - 179441_       FEE PAID: __1500     AOR REQUIRED? _  (Y OR N)
DATE ISSUED: 07 / 09 / 90     DATE EXPIRES: 07 / 24 / 95    HISTORY? _  (Y OR N)
         *****     SOURCE DESCRIPTION/TRACKING INFORMATION     *****
  DESC: BOILER_(CARBONACEOUS_FUEL)_W/MULTICHONE_&_VENTURI_SCRUBBER_____
SIMILAR SRC ID(S): __ __ __ __ __ __
                   __ __ __ __ __ __
STATUS: A = ACTIVE     # OF SCC: 001  # OF POLLUTANT: 002  MAJOR SRC? _ (Y OR N)
INITIAL CONST/MOD DATE: __ / __ / __        TYPE: 74 = UTILITY BOILER
 SIC: 4911 = ELECTRIC GENERATION/DISTRIBUTION              ESC NSR? _ (Y OR N)
NSPS: ___   NESHAP: ___   111D: ___   PSD/NSR: ___   NAA/NSR: ___   RACT: ___
COMMENT: .181#/MMBTU_ALLOW_3/12/86_CVIIA_SC_TEAM_?_AUDIT_____
         ________

AIR040 316VL40001101 PM      AIR PROGRAM INFORMATION SYSTEM                  12/17/90
                               SOURCE POLLUTANT RECORD                       09:55:45
FACIL: OWN: LFC NO. 47 CORP.      N/L: CR 591, 1.5 MI N   POLL UPDATED: 07/09/90
     # SRC: 001  MAJOR FAC: N    CITY: ..................  FAC STATUS: A = ACTIVE
SOURC DESC: BOILER (CARBONACEOUS FUEL) W/MULTICHONE & VENTURI SCRUBBER
PERMIT/PPS: A040-179441          MAJOR SRC: .        SRC STATUS: A = ACTIVE
 NSPS: ...    NESHAP: ...    111D: ...    PSD: ...    NAA/NSR: ...    RACT: ...

         ******     POLLUTANT/CONTROL INFORMATION     ******   PM
POLLUTANT ID: PM  = PARTICULATE MATTER                          % EFF: 98 . 0
PRI: 008 = CENT COL MED EFF              SEC: 002 = WET SCRUBBER MED EFF
                  *****     EMISSION INFORMATION     *****
   EMISSION FACTOR: _____ . _____  UNITS: _____________  REF: _____________
POTENTIAL EMISSION: 00024 . 6500 (LB/HR)    _____ . ____ (TON/YR)
ESTIMATED EMISSION: 000080 . 0000 (TON/YR)  EST CODE: 1 = SRC TESTNG/EMIS MEAS
   ACTUAL EMISSION: 000019 . 1700 (TON/YR)  AOR CODE: 3   AOR YR: 89
ALLOWABLE EMISSION: 00024 . 6500 (LB/HR)    000099 . 0000 (TON/YR)
ALLOWABLE EMISSION: _____ . _____( LB/HR          ) OTHER UNIT
   REGULATION CODE: RULE600  = SPEC SRCE EMISS LIMIT STD     CEM?: N (Y OR N)
    TEST FREQUENCY: 6 = EVERY 6 MONTHS      FREQUENCY BASE DATE: 05 / 16 / 90
           COMMENT: _____________________________
```

FORM DER-AA22
REV. 7/1/87

APPLICATION FOR REFUND
FROM
STATE OF FLORIDA

BEST AVAILABLE COPY

STATE OF FLORIDA)
COUNTY OF Madison)

Pursuant to the provisions of Section 215.26, or Section _____*, Florica Statutes, I hereby apply for a refund and request that a State Warrant be drawn in favor of:

NAME: LFC No. 47 Corp.

ADDRESS: 4000 Kruse Way Place, Bldg. One, Suite 255
Lake Oswego, Or 97035

AMOUNT: 50% of 1500 permit no. A040-179441

which represents moneys I paid into the State Treasury subject to refund, and to substantiate such claim the following facts are submitted:

Reason for Claim: Per 17-4 for renewals, refund 50%.

CERTIFIED TRUE AND CORRECT this _____ day of _____, 19____.

_____
Signature

*Must be completed if authority is other than Section 215.26, Florida Statutes.

(FOR AGENCY USE ONLY)

(1) Agency recommends denial of above claim based on the following facts, including statutory authority for collection: _____

or

(2) Agency recommends approval of above claim and submits the following information to substantiate such claim. The amount recommended: $_____.

The amount requested above was originally deposited into the State Treasury, included in State Treasurer's Receipt #_____, dated_____.

NAME OF ACCOUNT:

SAMAS ACCOUNT CODE

Statutory Authority for Collection _____
It is requested that payment be made from:

NAME OF ACCOUNT:

SAMAS ACCOUNT CODE

CERTIFIED TRUE AND CORRECT this 5 day of July, 19 90.

D.E.R. Northeast District
Agency

Andrew A. Kurtyan
Signature of Authorized Person

District Air Program Administrator
Title

SECTION 215.26 STATES, IN PART: "APPLICATION FOR REFUNDS AS PROVIDED BY THIS SECTION SHALL BE FILED WITH THE COMPTROLLER, EXCEPT AS OTHERWISE PROVIDED HEREIN, WITHIN 3 YEARS AFTER THE RIGHT TO SUCH REFUND SHALL HAVE ACCRUED ELSE SUCH RIGHT SHALL BE BARRED." Three years is interpreted as meaning three years from the date of payment into the State Treasury.

LFC - AP
Biomass Power

M

07-03-90 AAQ Review

~~03-Feb-87~~

Per Tom R. on 10/29/86
1. use data from similar site for backgrd
2. " direct ratio rollback

model results show 24-hr = ~~484~~ 17

1984 AAQ rpt shows in Palatka
'82 highest 88; 2nd highest = 70

Assuming Union Co. is similar & using 2nd highest as backgrd

AAQS 150
- bkgrd 70
80

MAI is NA.

So, max E_{AL} ~~reduced by direct ratio~~

max E_{AL} = 31.48 | 80 | = 484

TPY = 20 | 5 | 50 | = 2000

Since 17 < 80, E_{AL} will not be reduced.

10/21/00
John Sale

AAQ model input form

.1261

emis = $\frac{24.65 \text{ lbs}}{\text{hr}} \mid \frac{454 \text{ gm}}{\text{lb}} \mid \frac{\text{hr}}{3600 \text{ sec}}$ = 3.11 $\frac{\text{gm}}{\text{sec}}$

ht = $\frac{69.33 \text{ ft}}{} \mid .3048$ = 21.13 m

diam[1] = $\frac{5.75 \text{ ft}}{} \mid .3048$ = 1.75

temp[2] = 151 = 339 °K

vel[3] = 52,650 = 10.31 $\frac{\text{m}}{\text{sec}}$

1 if rectangular, $De = 1.128\sqrt{A}$

2 $F = C \times 1.8 + 32$

$C = \frac{151 - 32}{1.8}$ = 66 + 273 = 339

3 $ACFM = vel \times A$ $\quad A = \frac{\pi D^2}{4} = \frac{3.14(5.75)^2}{4}$

$= 25.95$

$vel = \frac{52,650}{25.95}$ = 2029 X .5080 = 1031 cms

10.31 $\frac{\text{m}}{\text{sec}}$ = 100 ÷

M

AMBIENT AIR QUALITY IN FLORIDA 1984

February 1986

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

This publication was produced at an annual cost of $6,884 or $6.88 per copy to inform the public of air pollution levels throughout Florida.

Table A-6. Summary of Total Suspended Particulate Data (Continued).

District/ County/City	Site Address	SAROAD Site No.	Station Type	Spatial Scale	Monitoring Objective	Year	TSP Concentration (ug/m^3) 24-hr. Value Highest	24-hr. Value Second Highest	Annual Geometric Mean	Geometric Std. Dev.
Nassau County (Cont'd)										
Fernandina Beach	Nassau Fertilizer Co.	1200-008-F	SLAMS	Neighborhood	Source	82	101	72	38?	1.55
						83	84	81	38	1.42
						84	135	104	38	2.04
Putnam County										
Palatka	Kay Larkin Airport	3780-001-F	SLAMS	Neighborhood	Source	82	88	70	31	1.45
						83	63	58	29	1.40
						84	74	69	32	1.48
Palatka	James A. Long Elementary School	3780-006-F	SPM	Neighborhood	Source	82	-	-	-	-
						83	60	56	-	-
						84	120	106	40	1.54
St. Johns County										
St. Augustine	St. Augustine STP	3900-003-F	SPM	Neighborhood	Pop. Exposure	82	170	103	42	1.60
						83	119	107	37	1.53
						84	100	96	44	1.39
Taylor County										
Perry	657 Plantation Road	3580-003-F	SPM	Neighborhood	Pop. Exposure	82	123	79	31	1.84
						83	73	64	32	1.63
						84	100	84	37	1.54
ST. JOHNS RIVER DISTRICT										
Brevard County										
Titusville	TICO Airport	0380-004-F	SLAMS	Neighborhood	Source	82	71	61	25	1.55
						83	54	47	24	1.50
						84	67	51	26	1.46

? This site had one-half or more of its scheduled observations but less than the minimum number of observations needed to make up a valid annual geometric mean.

- This site was not operated during the year or had less than one-half of its scheduled observations.

```
                    PTPLUI (VERSION 81035)
                    AN AIR QUALITY DISPERSION MODEL IN
                    SECTION 2. NON-GUIDELINE MODELS
                    IN UNAMAP (VERSION 5) DEC 82
                    SOURCE: FILE 12 ON UNAMAP MAGNETIC TAPE FROM NTIS
DO YOU WISH TO USE THE ABRIDGED VERSION?
NO

          IPTPLU - IMPROVED POINT SOURCE SCREENING MODEL - VERSION 81035
          THE INTERACTIVE VERSION OF PTPLU DEVELOPED UNDER CONTRACT BY
          AEROCOMP, INC. - COSTA MESA, CA      FOR THE
          ENVIRONMENTAL OPERATIONS BRANCH, EPA

 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
1

PRESENT OPTIONS ARE:
 1  COMPUTE GRADUAL RISE
 2  COMPUTE DOWNWASH
 3  COMPUTE BUOYANCY INDUCED DISPERSION

CHANGE WHICH OPTION? (4 TO DISPLAY; 5 TO RETURN TO MENU)
1

CHANGE WHICH OPTION? (4 TO DISPLAY; 5 TO RETURN TO MENU)
3

CHANGE WHICH OPTION? (4 TO DISPLAY; 5 TO RETURN TO MENU)
5

 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
4

PRESENT SOURCE CHARACTERISTICS ARE:
  1  SOURCE STRENGTH (G/SEC):  2750.0
  2  PHYSICAL HEIGHT OF STACK (M):  165.0
  3  STACK GAS TEMPERATURE (K): 425.0
  4  STACK GAS VELOCITY (M/SEC):  39.0
  5  INSIDE STACK DIAMETER (M):  4.5

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
1
ENTER NEW SOURCE STRENGTH (G/SEC):
```

LFC-AP
Biomass boiler

1-hr max = 42

24-hr = .4 X " ≅ 17 (16.8)

```
3.11

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
2
ENTER NEW PHYSICAL STACK HEIGHT (M):
21.13

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
3
ENTER NEW STACK GAS TEMPERATURE (K):
339

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
4
ENTER NEW STACK GAS VELOCITY (M/SEC):
10.31

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
5
ENTER NEW INSIDE STACK DIAMETER (M):
1.75

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
6

PRESENT SOURCE CHARACTERISTICS ARE:
  1  SOURCE STRENGTH (G/SEC):      3.1
  2  PHYSICAL HEIGHT OF STACK (M):   21.1
  3  STACK GAS TEMPERATURE (K): 339.0
  4  STACK GAS VELOCITY (M/SEC):  10.3
  5  INSIDE STACK DIAMETER (M):  1.8

CHANGE WHICH CHARACTERISTIC? (6 TO DISPLAY; 7 TO RETURN)
7

 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
7


PTPLU--IMPROVED MODEL FOR SCREENING MAXIMUM CONCENTRATIONS -- VERSION 81035

>>>INPUT PARAMETERS<<<

***TITLE***
*** PTPLU SCREEN  ***

***OPTIONS***
IF = 1, USE OPTION
IF = 0, IGNORE OPTION
IOPT(1) = 0  (GRAD PLUME RISE)
IOPT(2) = 1  (STACK DOWNWASH)
IOPT(3) = 0  (BUOY. INDUCED DISP.)

***METEOROLOGY***
AMBIENT AIR TEMPERATURE =   293.00 (K)
MIXING HEIGHT           =  3000.00 (M)
```

WIND PROFILE EXPONENTS = A: .10, B: .15, C: .20
D: .25, E: .30, F: .30

RECEPTOR HEIGHT = .00 (M)

BEST AVAILABLE COPY

SOURCE
EMISSION RATE = 3.11 (G/SEC)
STACK HEIGHT = 21.13 (M)
EXIT TEMP. = 339.00 (K)
EXIT VELOCITY = 10.31 (M/SEC)
STACK DIAM. = 1.75 (M)

>>>CALCULATED PARAMETERS<<<

VOLUMETRIC FLOW = 24.80 (M**3/SEC)
BUOYANCY FLUX PARAMETER = 10.50 (M**4/SEC**3)

*** PTPLU SCREEN ***

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
1	1.00	3.2852E-05	.539	146.1
1	1.50	3.5916E-05	.443	104.5
1	2.00	3.8013E-05	.377	83.6
1	2.50	3.9603E-05	.336	71.1
1	3.00	4.0445E-05	.308	62.8

40

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
1	1.12	3.3601E-05	.516	133.1
1	1.68	3.6695E-05	.421	95.7
1	2.23	3.8870E-05	.356	77.1
1	2.79	4.0167E-05	.318	65.9
1	3.35	4.0866E-05	.286	58.4

41

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
2	1.00	2.4045E-05	.993	146.1
2	1.50	2.9492E-05	.731	104.5
2	2.00	3.3146E-05	.597	83.6
2	2.50	3.5600E-05	.515	71.1
2	3.00	3.7321E-05	.459	62.8
2	4.00	3.9006E-05	.378	52.4
2	5.00	3.9816E-05	.332	46.1

40

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
2	1.18	2.6268E-05	.874	127.0
2	1.77	3.1645E-05	.649	91.7
2	2.36	3.5012E-05	.534	74.1
2	2.95	3.7091E-05	.464	63.5
2	3.54	3.8311E-05	.417	56.4
2	4.72	3.9695E-05	.343	47.6
2	5.90	3.9818E-05	.304	42.3

40

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
3	1.00	2.0300E-05	1.780	146.1

42

42

3	2.50	3.4117E-05	.808	71.1
3	3.00	3.6466E-05	.705	62.8
3	4.00	3.9300E-05	.578	52.4
3	5.00	4.0536E-05	.503	46.1
3	7.00	4.0742E-05	.417	38.9
3	10.00	4.2178E-05	.337	32.0
3	12.00	4.1896E-05	.306	29.3
3	15.00	4.0635E-05	.275	26.6

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
3	1.25	2.3563E-05	1.452	121.4
3	1.87	2.9849E-05	1.020	87.9
3	2.49	3.4087E-05	.810	71.2
3	3.12	3.6915E-05	.686	61.2
3	3.74	3.8756E-05	.604	54.5
3	4.99	4.0529E-05	.504	46.2
3	6.24	4.0799E-05	.444	41.2
3	8.73	4.1935E-05	.364	34.3
3	12.47	4.1748E-05	.300	28.8
3	14.97	4.0652E-05	.276	26.6
3	18.71	3.8505E-05	.251	24.5

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
4	1.00	9.8698E-06	5.385	146.1
4	1.50	1.5167E-05	3.082	104.5
4	2.00	1.9460E-05	2.238	83.6
4	2.50	2.2988E-05	1.739	71.1
4	3.00	2.5869E-05	1.432	62.8
4	4.00	3.0057E-05	1.079	52.4
4	5.00	3.2242E-05	.983	46.1
4	7.00	3.3104E-05	.796	38.9
4	10.00	3.5122E-05	.625	32.0
4	12.00	3.5275E-05	.561	29.3
4	15.00	3.4631E-05	.498	26.6
4	20.00	3.2579E-05	.437	23.9

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
4	1.32	1.3306E-05	3.666	116.0
4	1.98	1.9282E-05	2.268	84.4
4	2.64	2.3833E-05	1.642	68.5
4	3.30	2.7304E-05	1.301	59.1
4	3.95	2.9904E-05	1.091	52.7
4	5.27	3.2479E-05	.949	44.8
4	6.59	3.2952E-05	.826	40.1
4	9.23	3.4859E-05	.658	33.3
4	13.18	3.5113E-05	.532	28.1
4	15.82	3.4350E-05	.485	26.1
4	19.77	3.2684E-05	.439	24.0
4	26.36	2.9610E-05	.393	22.0

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
5	1.00	2.4873E-05	4.316	86.2
5	1.50	2.1723E-05	3.838	78.0
5	2.00	1.9463E-05	3.399	72.8
5	2.50	1.7815E-05	3.099	69.1
5	3.00	1.6536E-05	2.831	66.3

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
5	1.39	2.2329E-05	3.961	79.4
5	2.09	1.9133E-05	3.336	72.0
5	2.79	1.7048E-05	2.966	67.4
5	3.48	1.5536E-05	2.714	64.1
5	4.18	1.4368E-05	2.529	61.5
5	5.57	1.2645E-05	2.268	57.8
5	6.96	1.1448E-05	2.084	55.1

****WINDS CONSTANT WITH HEIGHT****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
6	1.00	2.1740E-05	8.025	75.1
6	1.50	1.9481E-05	6.979	69.3
6	2.00	1.7685E-05	6.061	64.0
6	2.50	1.6342E-05	5.446	60.9
6	3.00	1.5281E-05	5.006	58.6
6	4.00	1.3677E-05	4.389	55.2
6	5.00	1.2496E-05	3.979	52.7

****STACK TOP WINDS (EXTRAPOLATED FROM 7.0 METERS)****

STABILITY	WIND SPEED (M/SEC)	MAX CONC (G/CU M)	DIST OF MAX (KM)	PLUME HT (M)
6	1.39	1.9941E-05	7.000	69.5
6	2.09	1.7418E-05	5.934	63.4
6	2.79	1.5708E-05	5.177	59.5
6	3.48	1.4438E-05	4.673	56.8
6	4.18	1.3441E-05	4.304	54.7
6	5.57	1.1944E-05	3.798	51.6
6	6.96	1.0895E-05	3.446	49.3

(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.

(2) THE PLUME IS CALCULATED TO BE AT A HEIGHT WHERE CARE SHOULD BE USED IN INTERPRETING THE COMPUTATION.

(3) NO COMPUTATION WAS ATTEMPTED FOR THIS HEIGHT AS THE POINT OF MAXIMUM CONCENTRATION IS GREATER THAN 100 KILOMETERS FROM THE SOURCE.

```
 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
8
PTPLU RUN TERMINATED AT USER REQUEST
Stop - Program terminated.

Command (C) :CD\

Command (C) :
```

Madison Co. - AP
LFC No. 47 Corp.
#1 Carb Boiler
renewal AOP review

05-08-90

1. Requested chg testing to every 12 mos.
2. referred to last test stating lb per MMBTU
3. Checked APIS; test not in APIS.
4. Called Nay H.; he to call. (over)
5. Need to calc.

$$R\text{-}2,\ E_{act} = \frac{.2217\ gm}{37.0\ DSCF} \left| \frac{31200\ DSCF}{min} \right| \frac{lb}{453.6\ gm} \left| \frac{60\ min}{hr} \right| = 24.73\ \frac{lb}{hr}$$

E_{AL} via F-factor

$$R\text{-}2,\ E_{AL} = \frac{(31200 \times 60)\ DSCFH}{1872000} \left| \frac{0.181\ lb}{9600\ DSCF} \right| \frac{20.9-6.}{MMBTU} \Big| 20.$$

$$= \frac{24.15}{35.30}$$

05/09 map is 24.65 (in OP)

$$map\ E_{AL} = 136.18\ \frac{MMBTU}{hr} \left| \frac{0.181\ lb}{MMBTU} \right| = 24.65$$

$$TPY = \frac{24 \mid 7 \mid 48}{2000} \Big| \leftarrow = 99.38$$

$$R\text{-}2,\ heat\ input = \frac{31200\ DSCF}{min} \left| \frac{60\ min}{hr} \right| \frac{MMBTU}{9600\ DSCF} \Big| \frac{20.9-6.}{20.9}$$

$$= \frac{133.42}{\cancel{143}}\ \frac{MMBTU}{hr} \quad (OP\ is\ 136.18)$$

Madison Co. AP
LFC No. 47
#1 carb boiler

05-08-90
calc DSCFM at ACP conds

$$DSCFM = \frac{52650\ ACF}{min} \left| \frac{(1-.174)^{.826}}{} \right| \frac{528\ ^\circ R_{ss}}{611\ ^\circ R_A}$$

$$= 37581$$

05-09 Check above DSCFM via F-factor at ACP heat input rate.

$$DSCFM = \frac{136.18\ MMBTu}{hr} \left| \frac{9600\ DSCF}{MMBTu} \right| \frac{hr}{60\ min}$$

$$= 21789$$

Heat input

$$R\text{-}1 = \frac{29000}{} \left| \frac{60}{} \right| \frac{}{9600} \left| \frac{20.9 - 5.7}{20.9 - 4} \right. = \cancel{181.25}\ 131.82$$

$$R\text{-}3 = \frac{28400}{} \left| \frac{60}{} \right| \frac{}{9600} \left| \frac{20.9 - 4.6}{20.9} \right. = \cancel{177.5}\ 138.43$$

Run #	E_{act}	E_{AI}
1	18.4	23.86
2	24.7	24.15
3	23.2	24.65 (max)
avg	22.1	24.22

$$Eact\ \%\ of\ max = \frac{22.1}{24.65} \times 100 = 89.66\%$$

So, require ~~testing~~ every 6 mos.

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form #
Form Title
Effective Date
DER Application No.
Filed in DER NORTHEAST DISTRICT
RECEIVED
APR 25 1990
file

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Carbonaceous Fuel Boiler ✓ Renewal of DER Permit No. A040-105817 ✓

Company Name: LFC No. 47 Corp. ✓ County: Madison

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):

#1 Carbonaceous Fuel Boiler w/wet scrubber

Source Location: Street: 1.5 mi North of Madison on C.R. 591 City: Madison

UTM: East E-(17) 270.1 North N-3376.5

Latitude: 30° 30' 0"N. ✓ Longitude: 83° 23' 45"W. ✓

1. Attach a check made payable to the Department of Environmental Regulation in accordance with operation permit fee schedule set forth in Florida Administrative Code Rule 17-4.05.

2. Have there been any alterations to the plant since last permitted? [X] **Yes** [ ] No If minor alterations have occurred, describe on a separate sheet and attach.

3. Attach the last compliance test report required per permit conditions if not submitted previously.

4. Have previous permit conditions been adhered to? [X] **Yes** [ ] **No** If no, explain on a separate sheet and attach.

5. Has there been any malfunction of the pollution control equipment during tenure of current permit? [X] **Yes** [ ] **No** If yes, and not previously reported, give brief details and what action was taken on a separate sheet and attach. Previously Reported.

6. Has the pollution control equipment been maintained to preserve the collection efficiency last permitted by the Department? [X] **Yes** [ ] **No**

7. Has the annual operating report for the last calendar year been submitted? [X] Yes [ ] **No** If no, please attach.

8. Request for Amendment to Operating Permit, Specific Conditions - See attached sheet.

Northwest District 160 Governmental Center Pensacola, Florida 32501-5794 904-436-8300
Northeast District 3426 Bills Rd. Jacksonville, Florida 32207 904-798-4200
Central District 3319 Maguire Blvd. Suite 232 Orlando, Florida 32803-3767 407-894-7555
Southwest District 4520 Oak Fair Blvd. Tampa, Florida 33610-7347 813-623-5561
South District 2259 Bay St. Fort Myers, Florida 33901-2896 813-332-2567
Southeast District 1900 S. Congress Ave., Suite A West Palm Beach, Florida 33406 407-964-9668

8. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

Description	Contaminant Type	Contaminant %Wt	Utilization Rate lbs/hr

B. Product Weight (lbs/hr): _____

C. Fuels

Type (Be Specific)	Consumption* Avg/hr*	Consumption* Max/hr**	Maximum Heat Input (MMBTU/hr)
Wood Waste	30,323 lbs. ✓	30,323 lbs.	136.18 ✓

D. Normal Equipment Operating Time: hrs/day 24 ✓; days/wk 7 ✓; wks/yr 48 ✓;

hrs/yr (power plants only) 8,064; if seasonal, describe _____

The undersigned owner or authorized representative*** of LFC No. 47 Corp. is fully aware that the statements made in this application for a renewal of a permit to operate an air pollution source are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted facility.

*During actual time of operation.

**Units: Natural Gas-MMCF/hr; Fuel Oils-barrels/hr; Coal-lbs/hr.

***Attach letter of authorization if not previously submitted

LFC Power Systems Corporation

By: _____

Signature, Owner or Authorized Representative (Notarization is mandatory)

Patrick J. McAllister, Vice President

Typed Name and Title

4000 Kruse Way Place, Bldg. One

Address

Lake Oswego OR 97035

City State Zip

April 24, 1990 503/636-9620

Date Telephone No.

SUPPLEMENT SHEET

Permit # A040-105817, Application for Renewal
Madison, Florida
~~LFC Power Systems, Inc.~~ LFC No. 47 Corp. (Present Owner)
Permit Issued to Biomass Power Corporation July 24, 1985

I Alterations to Plant Since Operation Permit Issued: (Line item 2)

April, 1986:
1. Overfire air booster fan.
2. Flyash reinjection system with sand/char classifer.

Correspondence regarding these changes was sent to the Jacksonville Office on May 6, 1986 and July 31, 1986 by the then owner. Please let us know if you require further information.

To the best of my knowledge and belief, the plant configuration and operation is otherwise unchanged since completion of construction in June 1985. Paragraph III G of the application form submitted 7/11/83 should be amended to read as follows:

"Dry solid wastes (ash) will be removed from the grates at the boiler front and disposed of in landfill. Dry solid wastes from the "Multiclone" rotary valves are routed in an enclosed chute to a classifier where sand and char is separated from the flyash. The sand/char is routed to the scrubber ponds, and the ash is re-injected into the furnace. Semi-wet waste is periodically removed from the scrubber ponds and disposed of in landfill."

II Request for Amendment to Specific Condition #5

It is requested to increase the interval for particulate emission testing from 6 months to one year. This request is based upon The most recent test results, a copy of which is attached. These results are summarized below:

Operating Conditions
Input - 28,000 lbs/hr, fuel heating value estimated 4500 btu/lb.
Output - 77,000 pph steam, 6.6 MW power.

Particulate Test Results (EPA 5)
Average .1456 lbs/MMbtu (allowable is .18.)
Range .12 to .17 lbs/MMbtu.

Fred W. Dougherty, P.E.
3/9/90

OPERATION PERMIT RENEWAL
Professional Engineer Certification

This certification must be attached to the renewal application (required by Rule 17-4.050(3), FAC) for:

Company Name: LFC Power Systems Corporation (operator)
LFC No. 47 Corp. (owner)
Source ID: 3140001101

County: Madison

Renewal of DER Permit No.: A040 150817

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 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 _____

Fred W. Dougherty, P.E.
Name (Please type)

Liebtag, Robinson & Wingfield, Inc.
Company Name (Please type)

2571 Executive Center Cir., Suite 102
Mailing Address (Please type)
Tallahassee, FL 32301

Florida Registration No. 15124

Date 3/9/90

Telephone No. (904)877-7409

DER FORM 17-1.101(4) -----attachment
Effective October 1, 1988

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

ANNUAL OPERATION REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 19__ prior to March 1st of the following year.

I GENERAL INFORMATION

1. Source Name: MADISON BIOMASS PLANT
2. Permit Number: A040-105817
3. Source Address: CR 591, 1.5 miles north at Madison
4. Description of Source: Carbonaceous fuel fired power plant

II ACTUAL OPERATING HOURS: Various hrs/day Various days/wk 1,555.85 Total/hours

III RAW MATERIAL INPUT PROCESS WEIGHT: (List separately all materials put into process and specify applicable units if other than tons/yr)

Raw Material	Input Process Weight	
BIOMASS (Wood Waste, etc.)	12,307.6	tons/
		tons/
		tons/
		tons/
		tons/

IV PRODUCT OUTPUT (Specify applicable units)

Electricity 6,069,000 KWH

DER Form 17-1.202(6)
Effective November 30, 1982

LFC FINANCIAL CORP

Three Radnor Corporate Center, Suite 400
Radnor, Pennsylvania 19087

Telephone: (215) 964-2000
FAX: (215) 527-0170
Telex: 83-4700

April 9, 1990

State of Florida
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32309-2400

Re: LFC No. 47 Corp.
Madison and Jefferson Plants

Gentlemen:

This will confirm that LFC Power Systems Corporation, as operator of the Madison and Jefferson plants, has been authorized to prepare and file operating reports and routine permit renewals on behalf of LFC No. 47 Corp. This authority does not extend to major alterations which require the filing of a Standard Air Permit.

Thank you for your assistance in this matter.

Very truly yours,

LFC NO. 47 CORP.

Henry A. Lyczak
Vice President

HAL/mkm

cc: Paula A. Lausa, LFC Power Systems Corporation

LFC POWER SYSTEMS CORPORATION

April 23, 1990

Mr. Andrew Kutyna, P.E.
District Air Program Administration
Florida Department of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, Florida 32207

RE: LFC No. 47 Corp.
Madison Biomas Plant

Dear Mr. Kutyna:

Please find enclosed the following documents respecting renewal of the air permit for the captioned facility.

1. Original and three copies of the completed and signed application for renewal of permit to operate form.

2. Check in the amount of $1500.00 covering permit application processing fee.

3. Letter authorizing LFC Power Systems Corporation as operator of Madison and Jefferson facilities to execute operating reports and routine permit renewals. Would you please be so kind as to circulate this letter within the Department of Environmental Regulation as may be required to support continued filings for both the Madison and Jefferson plants.

If you have any questions with respect to any of the enclosed documentation, please don't hesitate to call me at (503) 697-0261.

Sincerely,

Bruce Shaw
Manager, Operations Support

Enclosures

cc: Darrell G. Stovall, LFC Power Systems Corporation

PAL772.LTR/akg

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

LFC POWER SYSTEMS CORPORATION

Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035

SECURITY PACIFIC NATIONAL BANK
333 SOUTH HOPE STREET
LOS ANGELES, CA 90071

16-4
1220

007778

CONTROL NUMBER:007778

CHECK DATE	CHECK AMOUNT
04/20/90	*****1,500.00*

*****1,500*DOLLARS*AND*00*CENTS

LFC POWER SYSTEMS CORPORATION

PAY TO THE ORDER OF
FLORIDA DEPT. OF ENVIR. REG.
3426 BILLS ROAD
JACKSONVILLE FL 32207

Gary B. Bell

[redacted]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 151643

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from LFC Power Systems Corporation Date April 25, 1990

Address Building One, Ste 255, 4000 Kruse Way Place Dollars $ 1,500.00
Lake Oswego, Or. 97035

Applicant Name & Address LFC Power Systems Corp. Rt. 3 Box 40 Madison, Fl 32340

Source of Revenue LFC No. 47 Corp.

Revenue Code 331032 CK#007778 Application Number A040-179441

By Patty Rose Key

3/5/90

Fred Dougherty

Liebler Robertson & Wingfield

2571 Ex Centre Circle East
Suite 102
Tall 32301

send* 1. PE form

2. ~~chg~~ test freq ? dasd
first request.

~~* gave to VK~~

* gave to VK to send.

JC

Florida Department of Environmental Regulation

Northeast District • 3426 Bills Road • Jacksonville, Florida 32207 • 904-798-4200

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Ernest Frey, Deputy Assistant Secretary

February 19, 1990

Mr. Henry Lyzak
LFC No. 47 Corporation
3 Radnor Corp. Center, 400
Radnor, Pennsylvania 19087

Dear Mr. Lyzak:

Madison County - AP
LFC No. 47 Corporation
Madison Biomas Plant
Biomas Boiler

Pursuant to Florida Administrative Code Rules 17-4.03 and 17-4.09 and Section 120.60, Florida Statutes, an application form for a permit to operate an air pollution source is being forwarded to you since, according to our records, your present permit No. A040-105817 expires 07-24-90 .

Please submit the original and 3 copies of the completed and signed form by 04-30-90 for processing by this office. Include test reports as required in permit or state when submitted.

This will allow time for processing of the application and issuance of the new permit to be completed prior to expiration of the present permit.

A check in the amount of $1500.00 made payable to the Florida Department of Environmental Regulation is the required permit application processing fee.

If there are any questions regarding the above, please contact Johnny Cole at 904/798-4200.

Sincerely,

Andrew Kutyna, P.E.
District Air Program
Administrator

AK:bt

Enclosure ( ) C of C of Constr.
(X) Renewal & PE attachment
( ) Regular form

PARTICULATE EMISSION TEST

ON

WOOD BOILER

FOR

LFC POWER SYSTEMS CORP.

RT. 3, BOX 40

MADISON, FL. 32340

ON

FEBRUARY 14, 1990

BY

AIR ENGINEERING DIVISION, PSI

P. O. BOX 16411, STA. B

GREENVILLE, S. C. 29606

PHONE: (803) 233-0597

TABLE OF CONTENTS

SIGNIFICANT DATA

NAME OF FACILITY: LFC Power Systems Corporation

LOCATION: Madison, FL

SOURCE TESTED: Bigelow Boiler

TEST METHOD: EPA Method 5, Particulate Emission Test

TEST DATE: February 14, 1990

CONTROL EQUIPMENT: Cyclone and Wet Scrubber

OPERATOR/FACILITY REPRESENTATIVE: Mr. Rod Mize, Plant Manager

FLORIDA ENVIRONMENTAL OFFICIAL PRESENT: Mr. Nay Hlaing

INDIVIDUALS CONDUCTING TEST: Ed Pickelsimer

INDIVIDUAL ANALYZING SAMPLES: Ed Pickelsimer

INDIVIDUAL PREPARING REPORT: Ed Picklesimer

CERTIFICATION: The data and calculations contained in this report are true and accurate to the best of my knowledge. E. A. Picklesimer

E. A. (Ed) Picklesimer, PhD, PE
Environmental Consultant

NAY HLAING
ENVIRONMENTAL ENGINEER
NORTHEAST DISTRICT
GAINESVILLE BRANCH OFFICE
STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION
3700 S.W. 34TH ST., SUITE 1204
GAINESVILLE, FL 32608
TELEPHONE
(904) [redacted]
SUNCOM
3362095

EMISSION RATE SUMMARY
(pounds particulate/10^6 Btu)

Run #	Measured	Allowable
1	0.1226	
2	0.1790	
3	0.1352	
Avg.	0.1456	0.181

Comparison of the measured emission rates with the allowable shows that this source is meeting the Florida Air Emission Standards. The opacity of this source appeared to be less the 20% during the entire test.

SOURCE: LFC Power Systems Corp.

TEST DATE: February 14, 1990

TEST NUMBER:	1	2	3	
# Traverse Pts.	20	→	→	
Θ, Minutes	60	→	→	
MCF	0.999	→	→	
Δ H @	1.95	→	→	
Δ H avg., "H_2O	2.66	1.39	1.24	
$\sqrt{\Delta P}$ avg., " H_2O	0.439	0.461	0.433	
Tm avg., ^oR	538	543	546	
Ts avg., ^oR	613	615	621	
Pb, "Hg	30.24	→	→	
Ps, "H_2O	30.31	→	→	
STACK DIA., in.	69 5/8	→	→	
Nozzle Dia., in.	0.365	0.312	0.312	
% CO_2	13.5	12.6	14.5	
% O_2	5.7	6.6	4.6	
% CO	0.2	0.2	0.3	
Vm, ft^3	49.7	37.5	35.6	
Vm_{STD}, ft^3	49.6	37.0	34.9	
% H_2O	21	20	22	
Md	30.4	30.3	30.5	
Ms	27.8	27.8	27.7	

SOURCE: LFC Power Systems Corp.

TEST DATE: February 14, 1990

TEST NUMBER:	1	2	3	Average
Vs, ft/sec	26.9	28.3	26.7	
Qa, acfm				
Qs, dscfm	29,000	31,200	28,400	
PARTICULATE CATCH, gm	0.2387	0.2217	0.1632	
PMR, lbs/hr	18.4	24.7	23.2	22.1
Cs, lbs/10^6 Btu	0.1352	0.1790	0.1226	0.1456
I, %	102.3	98.3	101.8	

Madison Co. - AP
LFC [redacted]
Biomass Plant

08-15-89 Rod Mize (904-973-3180) called; asked about startup notice requirements.
I said will discuss w/ ACE & call.
Discussed w/ MB; he said NH plans to go by later this wk & we agreed he needs to notify GBO of when plan to startup.
I called NH; discussed the above w/ him & requested that he contact R. Mize.

B.1 –

Biomass

Request for Reduction of Test Frequency.

I. Tests

5/85
11/85
3/12/86 failed 5/21 20.58/22.14
11/86 Borderline
5/87 6% under allowed

II. Consent Order

Not following (see attachment)

Myers

Chap 403.061
17-4.08

LFC POWER SYSTEMS CORPORATION

May 1, 1989

Mr. W.P. Stewart, P.E.
Supervisor Air Section
Florida Department of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, FL 32207

Dear Mr. Stewart:

Further to our letter of February 8 and as requested in your letter of February 16th, enclosed are three copies of our Application for Transfer of Permit No. AO40-105817 for the Madison Biomass Plant.

Please note this plant has gone through bankruptcy and Sun Bank of Tampa Bay as Indenture Trustee has signed as the present Permittee.

No improvements are planned as this time that would change any of the data, flow diagrams, etc. in the current permit application. Our present plans call for the Madison Plant to be restarted during the month of July of this year.

If you have any questions in regard to this request for transfer of the Madison permit, please contact me at the address or phone number on the letterhead.

Very truly yours,

Roy Ruel
Director Applications Engineering & Project Analysis

Encl (3)

rr05fla.let

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION FOR TRANSFER OF PERMIT

Permit No. A040-105817 Date Issued July 24, 1985 Date Expires July 24, 1990

NOTIFICATION OF SALE OR LEGAL TRANSFER

Source Name: Madison Biomass Plant County: Madison

Source Location: CR 591, 1.5 miles north of Madison City: Madison

Permittee Name: Biomass Power Corporation Title: Former Owner

Mailing Address: c/o Sun Bank, National Association, 225 East Robinson Street, Suite 350
Orlando, Florida 32801
as successor to Permittee by foreclosure

The undersigned hereby notifies the department of the sale or legal transfer of this pollution source. He further agrees to assign his rights as permittee to the applicant in the event the department agrees to the transfer of permit.

SUN BANK OF TAMPA BAY*
By: _____
Signature of Permittee
Vice President
Title
Date: 4/21/89

Sworn to and subscribed before me at Orange
County, State of Florida,
this 21st day of April 19 89.

Laura Nemes
Notary Public

My Commission Expires: Notary Public, State of Florida
My Commission Expires April 4, 1992
Bonded Thru Troy Fain - Insurance Inc.

*as Indenture Trustee, successor by merger to Flagship Bank of Tampa, as Indenture Trustee, under that Indenture of Trust between Madison County, Florida as Issuer and Flagship Bank of Tampa, as**

REQUEST FOR TRANSFER OF PERMIT

Source Name: Madison Biomass Plant

Applicant Name: LFC No. 47 Corp. Title: Owner
c/o LFC Energy Corporation

Mailing Address: Three Radnor Corporate Center
Suite 400
Radnor, Pennsylvania 19087 Telephone: (215) 964-2000
area

Project Engineer: Name: LFC Power Systems Corporation, Roy Ruel, Project Engineer

Mailing Address: 4000 Kruse Way Place, Building One, Suite 255, Lake Oswego, Oregon 97035

Telephone: (503) 636-9620
area

The undersigned hereby notifies the department of his having acquired title to this pollution source. He further states that he has examined the application and documents submitted by the current permittee the basis on which Permit No. A040-105817 was issued by the department, and states that they accurately and completely describe the permitted activity or project. He further states that he is familiar with the permit, agrees to comply with its terms and conditions, and agrees to assume the rights and liabilities contained therein. He also agrees to promptly notify the department of any future change in ownership of, or responsibility for, the permitted activity or project.

LFC No. 47 Corp.
By: _____
Signature of Applicant*
Vice President
Title
Date: April 27, 1989

Sworn to and subscribed before me at Radnor
County, of Delaware, Pennsylvania,
this 27th day of April 19 89.

Nancy L. Jillson
Notary Public

NOTARIAL SEAL
NANCY L. JILLSON, Notary Public
Radnor Twp., Delaware Co.
My Commission Expires June 4, 1991

My Commission Expires:

*Attach letter of authorization if other than owner or corporate officer.

**Trustee, dated as of June 1, 1983.

Florida Department of Environmental Regulation

Northeast District • 3426 Bills Road • Jacksonville, Florida 32207 • 904-798-4200

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Ernest Frey, Deputy Assistant Secretary

April 24, 1989

jcle

Mr. Roy Ruel
LFC Power Systems Corporation
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035

Dear Mr. Ruel:

Madison County - AP
Biomas Power Corporation
Wood Boiler
ID #31GVL40001101
Permit No. A040-105817

In response to your February 8 letter, on February 16 we sent the application for transfer of permit. Enclosed is another blank of the form. Please complete and return it by May 15, 1989.

If the planned improvements mentioned will change any of the data, flow diagram, etc. in the current application, please send all of the revisions for our review and approval, if necessary.

If there are any questions please contact Johnny Cole at the letterhead address or phone number.

Yours very truly,

W. P. Stewart

W. P. Stewart, P.E.
Supervisor Air Section

WPS:jck

Enclosure - application for Transfer of Permit
Chapter 17-4

Florida Department of Environmental Regulation

Northeast District • 3426 Bills Road • Jacksonville, Florida 32207 • 904-798-4200

Bob Martinez, Governor | Dale Twachtmann, Secretary | John Shearer, Assistant Secretary | Ernest Frey, Deputy Assistant Secretary

February 16, 1989

Mr. Roy Ruel
LFC Power Systems Corporation
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035

jle

Dear Mr. Ruel:

Madison County - AP
Biomas Power Corporation
Wood Boiler
ID #31GVL40001101
Permit No. AO40-105817

In response to your February 8 letter, please complete the enclosed application for transfer of permit and return it.

If the planned improvements mentioned will change any of the data, flow diagram, etc. in the current application, please send all of the revisions for our review and approval, if necessary.

If there are any questions please contact Johnny Cole at the letterhead address or phone number.

Yours very truly,

W. P. Stewart

W. P. Stewart, P.E.
Supervisor Air Section

WPS:jck

Enclosure - application
Chapter 17-4

LFC POWER SYSTEMS CORPORATION

February 8, 1989

Mr. William P. Stewart, District Air Program Engineer
State Of Florida
Department Of Environmental Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Mr. Stewart,

LFC No 47 Corp., a Delaware Corporation, is now completing the process of acquiring ownership of the Madison County wood burning power plant formally owned and permitted by Biomass Power Corporation. We believe the following is the relevant data pertaining to the operating permit issued for this facility by the Florida Department of Environmental Regulation.

I.D. Number	3140001101
Permit/Certificate Number:	AO40-105817
Date of Issue:	July 24, 1985
Expiration Date:	July 24, 1990
County:	Madison

In connection with our acquisition of this facility we desire that this permit be transferred to name LFC No 47 Corp as the new permittee.

From a conversation with the Florida DER's Mr. Mort Benjamin I understood this transfer could be accomplished based on our letter request. Please consider this letter as our formal request for this transfer.

Our current plans call for a possible start of operations at the Madison plant toward the end of April this year. We plan to make only those necessary repairs and improvements to the plant to insure good operations in compliance with the permit conditions.

The permit should be transferred to the following name and address:

LFC No 47 Corp.
c/o LFC Energy Corporation
Three Radnor Corporate, Suite 400
100 Matsonford Road
Radnor, PA 19087

If you have any questions in regard to this request please direct them, as well as a copy of the reissued permit, to me at the following address and telephone number:

Building One, Suite 255 • 4000 Kruse Way Place • Lake Oswego, Oregon 97035
Phone: 503-636-9620 • FAX: 503-697-0288

Roy Ruel
LFC Power Systems Corporation
Building One, Suite 255
4000 Kruse Way Place
Lake Oswego, OR 97035
Telephone 503-697-0280

Very truly yours,

Roy H. Ruel

6/14/88 Energy Engrg —

615 238 5808

Mike McCullough

permit status
A040-105817 exp 07-24-90
then call

also call NWD
one in Jefferson Co.
SC 695-8300

ASAP
Biomass Power
316VL400011
Jack P. 904-436-8364
CP expired (over)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
904/798-4200

March 2, 1988

Mr. Robert Malone
Bonneville Pacific Corporation
257 E. 200 Street, South
Suite 800
Salt Lake City, Utah 84111

Dear Mr. Malone:

Madison County - AP
BioMass Power Corporation
Wood Waste Boiler

The history of the wood waste boiler in terms of compliance has been marginal. Attached is a list of tests, the permit and the Consent Order for failing a stack test.

It appears that when the scrubber is well maintained, the boiler will be in compliance.

A stack test failure on March 12, 1986 resulted in a Consent Order, corrective activities and a fine. You will note on the tracking record that the case is closed.

The Consent Order specified measurement of pressure drop and water flow to the scrubber and maintenance of operating logs (14, 15, 16).

Testing as indicated in the permit specific conditions requires particulate matter and visible emission tests each six months. Tests would be required shortly after the plant starts up. Note that this office must be notified 14 days prior to the test.

Yours very truly,

William P. Stewart, P.E.
Supervisor Air Section

WPS:mbk

Enclosure

Test Date	Actual Emissions Lbs/Hr.	Allowed Emissions Lbs/Hr.
May 16, 1985	18.08	23.66
March 12, 1986	50.57*	25.34
May 21, 1986	20.58	22.14
Nov. 20, 1986	19.57	19.44
May 27, 1987	In compliance	
Nov., 1987		

*Failed test

The Gainesville Sun
Thursday, February 11, 1988

NORTHEAST DISTRICT
RECEIVED
FEB 15 1988
DER-JACKSONVILLE

Landfill task force faltering

By LARRY SCHNELL
Sun staff writer

The 13-county task force studying regional garbage disposal is splintering, and some county representatives say they probably won't put pen to paper when a final, binding agreement is before them.

"I don't perceive there being 13 counties in it when it's over," said James Croft, a Baker County commissioner and chairman of the Policy Advisory Committee supervising the solid waste task force.

On Monday, members of the task force worked on a proposed agreement creating an authority to manage garbage disposal for the counties. The agreement would force counties to commit a percent-

See LANDFILL on page 12A

Talked to Ron Mizelle this date — plant closed Friday 2-12-88. Up for sale. Don't know much beyond that. Laura Edwards talking to City Commissioners about running garbage

2-16-88

2/16

LANDFILL

Continued from page 1A

age of their garbage to the authority's landfills and pay a fixed, as yet undetermined, cost for disposal.

Among the 13 counties are Baker, Bradford and Union, which are studying their own regional landfill plan. They hope to use Department of Corrections land for their landfill. If their plans work, they won't join the authority, Croft said.

Commissioners from six other counties are meeting tonight in Madison to talk with representatives of a small power company. They want to see if the company could burn their solid waste to generate power.

On Monday, three counties opposed a part of the agreement that would bind them and their garbage to the authority. Although they were outvoted, they expressed their displeasure with the agreement.

Tom Coward, an Alachua County commissioner on the task force's advisory board, said he was displeased by the group's fragmentation. Coward said Alachua County interrupted plans to improve its own landfill so that it could participate in a regional study that would benefit all 13 counties.

"If I had any idea that this is the way it was going to come out, that they were going to pull out, maybe we wouldn't have gotten into this," Coward said.

All counties in the task force are under pressure from the Department of Environmental Regulation to seek solutions to their landfill problems.

But there is no guarantee that the solutions some counties are seeking independently of the task force will be acceptable to the DER or cheaper than the task force's solution. In the end, the task force may offer the only solution, and counties might have to sign the agreement or face fines from DER because their landfills are not up to standards.

Steve Shannon, task force coordinator, said Monday that a final agreement probably needs to be signed by early April. A commitment from the counties is important, he told the task force, because the group is asking for state money to study the best sites for three regional landfills.

Without a commitment, the state may be reluctant to spend money on the project. Shannon said about $2.5 million is needed and could be available in the summer or fall.

The date the money comes through is crucial because, under terms of a draft agreement worked out Monday, counties could back out any time until the state money is delivered. Once delivered, the commitment of garbage and unknown tipping fees becomes firm.

Some county commissioners already are getting skittish.

Madison County Commissioner Bert Thigpen said he and the other five commissioners will have to find some quick alternatives to disposing their garbage to avoid signing the agreement.

"Whatever is done has to be done (soon)," Thigpen said. "People are getting tense."

"We're going to use every minute of time to be looking," Croft said.

So will county commissioners from Suwannee, Lafayette, Taylor, Jefferson, Madison and Hamilton counties.

A representative of Biomass Power is scheduled to meet with them tonight in Madison to discuss alternate ways of disposing of solid waste.

The biomass plant, which sells electricity to Florida Power & Light, could be converted to burn solid waste, and that could be better for Madison and surrounding counties than the regional landfill, Thigpen said. Disposal and hauling costs could be cheaper, he said. The question remains, however, if the plant can be converted and if its use would be economical.

Bradford, Baker and Union also are moving ahead with their proposal to use DOC land for a landfill. Next Wednesday, the group plans to study a binding agreement among the three counties for use of the proposed landfill, Croft said.

Already, a private firm Croft would not name has approached him to discuss operating the proposed landfill. And Environmental Incineration Systems, a Jacksonville firm, is scheduled to speak to the Baker County Commission Tuesday, Croft said. The company could operate on the state land under contract with the three counties.

Counties give different reasons for their opposition to signing with the authority, but autonomy and unknown costs are among them.

Jessie Cooksey, Jefferson County commissioner and advisory committee member, said he doubted he would sign an agreement when he didn't know how much garbage disposal would cost his county.

"Whenever there's not a bottom line on county spending, I'm reluctant to stick the county's name on it," Cooksey said.

Croft said his county wanted to make its own decisions.

"I don't like the idea of another county coming in and telling us how much to charge for our garbage," Croft said.

At the meeting in Lake City Monday, Shannon urged counties that wanted to pursue their own solutions to do so under the umbrella of the proposed authority. Shannon said they could have a degree of autonomy as members of the proposed authority.

Chuck Kiester, director of regional planning for the North Central Florida Regional Planning Council, which is providing legal and administrative help to the group, said the fragmenting is natural. But if separate groups don't join the proposed authority, they and the authority would lose benefits, including state support and some ability to raise money through bonds.

"However it happens, there would definitely be advantages to have subregions stay under the umbrella of the 13-county effort," Kiester said.

But Croft said Union, Bradford and Baker would not heed Shannon's advice if they are able to work out a deal with the prison system.

"If we go on our own, we will have our own interlocal agreement," Croft said. "And we will govern it ourselves."

As counties seek their own solutions, they will need approval from the Department of Environmental Services.

According to Phil Coram, DER solid waste supervisor, the state probably would accept a fragmentation of the group, as long as several counties worked together on a solution to solid waste.

"If I had any idea ... maybe we wouldn't have gotten into this."

TOM COWARD

1/14/88

RON

Mr. ~~Rob~~ Mize
Plant Supt.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

	Initial / Date
1. TO: (NAME, OFFICE, LOCATION)	Initial / Date
2. MORT	Initial / Date
3. SIGNED COPY TO:	Initial / Date
4.	Initial / Date

REMARKS:

BIOMASS POWER WANTS TO CHANGE TEST FREQ. FROM 2/YR TO 1/YEAR.

THEY NEED TO KNOW WHAT IS REQ'D TO DO THIS. (CHECK ON CONSENT ORDER)

ROD MIZE (CONTACT)
BIOMASS
973-4718

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

5/16/86 18.[illegible] / 23.66

* 3/12/86 Test / Alkwood

~~50.57~~ 25.34

5/21/86 - 20.58 / 22.58

✓ 11/20/86 - 19.57 / 19.44

3/12/86

5/16/85

✓ 5/21/86

✓ 11/20/86

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
904/798-4200

November 25, 1987

CERTIFIED - RETURN RECEIPT

Mr. John Matthews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32680

Dear Mr. Matthews:

Request Notice JRN No. 40-4542
Biomass Power Corporation - OGC #86-1142
Madison County - Air Enforcement

Pursuant to paragraph 19 OGC Consent Order #86-1142, this office has received from Biomass, installment payments of $600.00 on November 20, 1986, and $1,000 on February 17, 1987 and May 14, 1987. The last two payments were 16 and 17 days late respectively.

To date this office has not received payments due August 1 or November 1, 1987. Additionally, Biomass has not submitted operating logs due July 1 and October 1, 1987 pursuant to paragraph 16 of the above Consent Order and noted in correspondence to you from W. P. Stewart dated October 28, 1987.

Pursuant to the acceleration clause of paragraph 19 of the above Consent Order, payment in full in the amount of $3,000 is now required, due to your failure to adhere to the requirements of the Consent Order. A cashiers check or money order should be made payable to the Department of Environmental Regulation and submitted to this office within 7 days of your receipt of this letter. Also, you are required to submit to the Department within 7 days of receipt of this letter operation logs for the months of July and October, 1987.

Your timely response is necessary in this matter.

Sincerely,

Juanita Williams

Juanita Williams
Environmental Specialist
Enforcement Section

JW:eml
cc: W. P. Stewart - DER
Ralph Smith - Biomass

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
904/798-4200

October 28, 1987

file

Mr. Ralph Smith
Biomasss Power Corporation
Post Office Box 917
Madison, Florida 32340

Dear Mr. Smith:

Madison County - AP
Biomass Power Corporation
Test Frequency

Biomass is permitted under Florida Administrative Code (FAC) 17-2.600(10)(b)2.b. with a test frequency twice per year. Chapter 17-4.08, FAC addresses changes in permit conditions when environmental conditions require such changes.

Two considerations in the case of Biomass must be kept in mind. First is the test history. Submitted reports since the test failure March 12, 1986 have been close to the permitted level. We feel this situation does not provide confidence that conditions have improved sufficiently to change the test frequency.

Second, the record of compliance with the Consent Order must be considered. Looking at the compliance record we find quarterly logs and payments have not been made since April 30 and May 14, respectively.

With the two considerations in mind, we cannot justify reducing test frequency at this time.

Yours very truly,

W. P. Stewart

W. P. Stewart, P.E.
Supervisor Air Section

WPS:mbk

cc: Mike Fitzsimmons

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
ENFORCEMENT
COMPLIANCE TRACKING RECORD

Late AOR

CASE NAME: Biomass Power Corporation - Madison 06C 86-114

MONETARY SETTLEMENTS

ASSESSED: 5,600

COLLECTED: DATE	AMOUNT
11/17/86	$600

COMPLIANCE MONITORING (Includes due dates for monetary settlements)

DATE DUE	ACTIVITY	DATE COMPLETED
11/20/86	Payment 1 - $600	11/17/86
11/30/86	Install equipment and gauges	11/29/86
12/15/86	Data regarding saturated plume and water flow	01/30/87
01/31/87	Operating logs	03/06/87
02/01/87	Payment 2 - $1,000	2/17/87
04/30/87	Operating logs	
05/01/87	Payment 3 - $1,000	5/14/87
07/31/87	Operating logs	
08/01/87	Payment 4 - $1,000	
10/31/87	Operating logs	
11/01/87	Payment 5 - $1,000	
02/01/88	Payment 6 - $1,000	

Stewart

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
904/798-4200

April 24, 1987

CERTIFIED - RETURN RECEIPT

Mr. Ralph Smith
Biomass Power Corporation
Post Office Box 917
Madison, Florida 32340

Dear Mr. Smith:

Biomass Power Corporation
Warning Notice No. NE-W-40-3421
Madison County - Air Pollution Enforcment

On February 6, 1987 the Department issued you Warning Notice No. NE-W-40-3421 which you received on February 13, 1987. The Department received your response to the Warning Notice on February 23, 1987 and has determined that the violations specified in the Warning Notice appear to have been satisfactorily corrected. Therefore, execution of a Consent Order does not appear necessary at this time. This does not relieve you of the need to comply with applicable federal, state, or local laws, regulations, or ordinances, nor does it relieve the Department of its right to initiate appropriate lega action to prevent or prohibit any future violation of Florida Statutes or rules.

Sincerely,

Jeanne L. Bahy

for Michael J. Fitzsimmons
Environmental Manager
Enforcement Section

MJF:jww
cc: William Stewart, DER

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ Loctn: _____
To: _____ Loctn: _____
To: _____ Loctn: _____
From: _____ Date: _____

TO: Mike Fitzsimmons

FROM: Bill Stewart WS

DATE: March 26, 1987

SUBJECT: Madison County - AP
Biomass Corporation
Recommenbdation of a Meeting with Biomass

Biomass is now under a Consent Order. Their November 20, 1986 compliance test is borderline at best (received February 9, 1987).

It is recommended that a meeting be held with Biomass at the District Office to provide us with the steps that will be taken to return the plant to compliance.

WPS:vk

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ Locn: _____
To: _____ Locn: _____
To: _____ Locn: _____
From: _____ Date: _____

NORTHEAST DISTRICT - JACKSONVILLE

TO: Bill Stewart
THROUGH: Jimmie Baker JB
FROM: Juanita Williams
DATE: 3/6/87
SUBJECT: Biomass Power Corp.

The enforcement actions you requested for the case titled Biomass Power Corp - failure to submit test are complete, and the case is no longer being tracked by Enforcement.

If further enforcement actions become necessary, please resubmit the case with the applicable information included.

JW

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

FEB 06 1987

Bill Stewart

CERTIFIED - RETURN RECEIPT

Mr. John Mathews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32680

Dear Mr. Mathews:

Warning Notice No. NE-W-40-3421
Biomass Power Corporation
Madison County - Air Pollution Enforcement

Chapter 403, Florida Statutes, authorizes and directs the Department of Environmental Regulation to control and prohibit pollution of air and water.

The Department has reason to believe that you are currently engaged in activities in violation of Florida law.

Specific Conditon No. 5 of Permit No. AO40-105817 requires the referenced source to conduct emissions tests for particulate matter and visible emissions every six months from May 16, 1985. The Department does not have record of the required November 20, 1986 stack test which should have been submitted no later than January 4, 1987.

Portions of the Florida Statutes and Rules which the Department believes you have violated, or are now violating are identified below. A written response to each violation is required.

Chapter 403, Florida Statutes, Environmental Control

403.161 Prohibitions, violation, penalty, intent.-

(1) It shall be a violation of this chapter, and it shall be prohibited:

* * *

(b) To fail to obtain any permit required by this chapter or by rule or regulation, or to violate or fail to comply with any rule, regulation, order, permit, or certification adopted or issued by the Department pursuant to its lawful authority.

Florida Administrative Code Chapter 17-2, Air Pollution

17-2.700 Stationary Point Source Emissions Test Procedures.

* * *

(7) Test Reports.

* * *

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

Section 403.141(1), Florida Statutes, provides that whoever commits a violation of Section 403.161,(1) Florida Statutes, shall be liable to the State for any damage caused and for civil penalties to $10,000 per day during which the violation occurs.

Accordingly, you are hereby advised to respond, in writing, to the specific violations within 10 days from receipt thereof.

The violations set forth in this Warning Notice may be resolved by the execution of a mutually acceptable Consent Order providing an acceptable schedule within which the violations will be corrected. This Consent Order will set forth specific requirements for compliance, the time periods within which compliance must be achieved and a settlement figure payable to the State. The Consent Order will be sent to you for signing after review by the Department's Office of General Counsel.

Any questions concerning this Warning should be directed to Juanita P. Williams, of the Enforcement Section at the letterhead address or telephone number (904) 798-4200.

Sincerely,

Ernest E. Frey
District Manager

EEF:jww

cc: Joel Riley

Madison Co. - AP

~~Boodhoo~~

Biomass Power

02-09-87 2/6

Per telecon note by HG, ~~Dave~~ Carol Rainey (803 233 0597) called & left msg to call him on 2/9 about requirements for a PSD.

I called & he transferred me to Ed ~~Pickel~~ Picklesimer. Told Ed to call BT or CF.

Mad. Co.

January 29, 1987

Biomass Power Corporation
P.O. Box 917
Madison, Florida 32340

State of Florida Dept.
of Environmental Regulations
3426 Bills Road
Jacksonville, Florida 32207

Attention: Mr. Ruetter

Dear Mr. Ruetter:

This letter is to serve as a written response in regards to the consent order for OGC Case No 86-1142.

Item No. 15 a Flow Meter was installed on November 29, 1986 to measure scrubber water flow. Item No. 17 which determines water flow resulting in a saturated plume. It has been determined that with a ambient temperature of 80 degrees or less the flow of 170 GPM is enough to produce a plume.

As indicated on the consent order with the exception of reimbursement payments and quarterly reviews of the logs. All information has been supplied.

If you should need any information or have any questions, please contact me by phone.

Sincerely,

Ralph Smith
Biomass Power Corporation

RS/bb

REFERRED TO ENF. 1-7-87

WS

PSI

P.O. Box 16411, Sta. B
Greenville, SC 29606
(803)233-0597

December 22, 1986

NORTHEAST DISTRICT
RECEIVED
JAN 7 1987
DER-JACKSONVILLE

Mr. Stan Mazur
Florida Dept. of Environmental
Regulation
3426 Bills Rd.
Jacksonville, Fla. 32207

SUBJECT: Biomass Power Corp., Madison, Fla.

Dear Stan:

Since the results of the November 20, 1986, emission test at the Biomass Power Corp. were poor, they may need to retest in the near future.

Please find enclosed three (3) filters which I plan to use on the next test. Please weigh these filters and return them to me as soon as possible. I will return them to you along with the probe & nozzle wash catch after the test for Quality Assurance Check.

If you have any questions, please do not hesitate to call me.

Sincerely,

Air Engineering Division/PSI

Ed

E. A. (Ed) Picklesimer
Environmental Consultant

cc: Biomass

Filters 14, 15, & 16

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE
To: Anna Cooling LOCTN:
To: O LOCTN:
To: LOCTN:
FROM: DATE:

NORTHEAST DISTRICT
RECEIVED
JUN 30 1986
DER-JACKSONVILLE

To: Bill Stewart

Thru: Jim Pennington JKP

From: Andres Kraul AK

Date: June 12, 1986

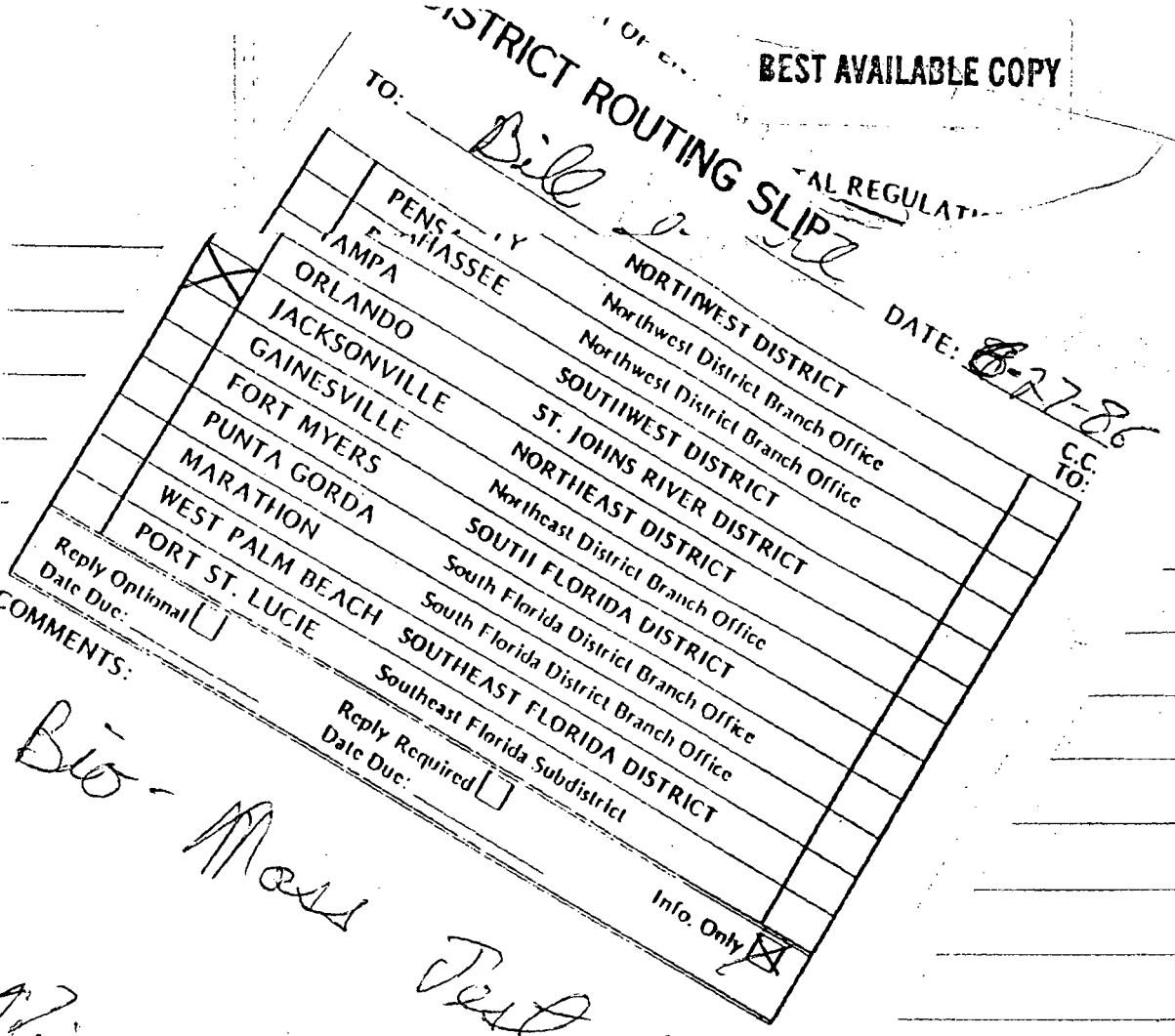
Subject: Bio-Mass Pollution Control Equipment

On June 4 and 5, 1986 BAQM stack test team and Stan Mazur conducted a stack test at Bio-Mass in Madison, Florida. On June 3 we noticed that the plume was not wet. However, when the test was conducted the plume was wet. This is a clear indication that the water flowing into the scrubber had been increased.

Because the test conducted by DER-BAQM showed that the source does not have any problems meeting the applicable standard when the plume is wet, Bio-Mass personnel must install the gauges that are required to measure the scrubber parameters such as pressure drop and water flow rate.

Also, Bio-Mass failed one stack test and marginally passed another one when they were having problems with the scrubber. Therefore, it is reasonable to require that the scrubber operating parameters be monitored and logged on a daily basis.

JP:AK:ht



BEST AVAILABLE COPY

DISTRICT ROUTING SLIP

TO: Bill

DATE: 8-27-86

C.C. TO:

	PENSACOLA	NORTHWEST DISTRICT
	TALLAHASSEE	Northwest District Branch Office
X	TAMPA	Northwest District Branch Office
	ORLANDO	SOUTHWEST DISTRICT
	JACKSONVILLE	ST. JOHNS RIVER DISTRICT
	GAINESVILLE	NORTHEAST DISTRICT
	FORT MYERS	Northeast District Branch Office
	PUNTA GORDA	SOUTH FLORIDA DISTRICT
	MARATHON	South Florida District Branch Office
	WEST PALM BEACH	South Florida District Branch Office
	PORT ST. LUCIE	SOUTHEAST FLORIDA DISTRICT
		Southeast Florida Subdistrict

Reply Optional ☐
Date Due:

Reply Required ☐
Date Due:

Info. Only ☒

COMMENTS:

Bio - Mass Dist Report

MB

Keisling

TEL.: 278-1344

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY
ERNEST E. FREY
DISTRICT MANAGER

March 31, 1986

Mr. John Matthews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32630

Dear Mr. Matthews:

Madison County - AP

We have not received your Annual Operating Report for 1985 at this time. Please submit it promptly. An extra copy is attached for your use.

The submission of an annual operating report is part of your permitting requirements. Please be sure to list actual operating hours used during the year.

Sincerely,

W. P. Stewart, P.E.
Supervisor Air Section

WPS:mbk

Enclosure

Xerox Copies of AOR Reports, APIS Print-out Permit pages.

Biomass Power Corporation
P.O. Box 917
Madison, Fl. 32340

State of Florida
Department of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, Fl. 32207

Attn: Mr. Ernest E. Frey, District Manager

Subject: Biomass Power Corporation
Madison County, Florida
Air Pollution Compliance

Gentlemen:

Per our telephone conversation on February 26, 1986, we wish to explain our position. Biomass Power Corporation is officially in bankruptcy, however an investment group has made an offer to purchase the facility. As soon as the court renders a decision, around April 1, 1986, the Corporation will officially change ownership.

Beginning February 1, 1986, Operations Management International was relieved of the responsibility to operate the plant and we began operation as Biomass Power Corporation.

We wish to apologize for the length of time that has passed since we were found in violation, but trust that your department can understand the confusion accompanying such a change of management.

We understand that there is concern on your part about the frequency of short term violations, especially in visible emissions. We have located what we believe is the cause of this problem and will soon be making some process changes to alleviate this problem. We believe the problem revolves around the way we have to operate our wet scrubber. We are going to install some additional equipment to hopefully allow us to fully utilize the existing wet scrubber.

We have alaready contacted Air Engineering Systems of Greenville, South Carolina to conduct our stack emissions test and have set up the test for March 12, 1986. We would like to have someone from your department present during the test, if pos-

sible.

Thank you for your patience concerning our situation and we look forward to a good relationship with your department.

We hope that this letter will answer your questions and concerns. However, should you have any other questions, please contact us.

Yours Very Truly,

John C. Parker

John C. Parker,
General Manager

JCP/cs

AP—

OMI OPERATIONS MANAGEMENT INTERNATIONAL, INC.

November 16, 1985

Stan Sam

Mr. Frank Watkins, Jr, P.E.
State of Florida
Department of Environmental Regulations
3426 Billso Road
Jacksonville, Florida 32207

Re: Permit No. A040-105817
Biomass Power Corporation
Emission Testing Notification

Dear Mr. Watkins:

In Accordance with the conditions of the captioned permit, (Section - Specific Conditions - Item 6), and on behalf of Biomass Power Corporation, we are herein formally notifying the state of our intent to have an independent laboratory to perform the particulate and visible emission tests outlined in the permit. The scheduled date for the tests are December 16, 1985.

Should any deviations or interruptions occur which will impact this date, your department will be notified by phone, followed by formal written notification.

Should any information or questions regarding this matter occur, please call the undersigned.

Sincerely,

Dean E. Gary

Dean E. Gary
Operations Supervisor

xc: John Mathews - Biomass Power Corporation
John Race - Sun Bank
Sam Draper - Fisher - Johnson
Jim Columbo
Bernie Miller

Madison C. - AP
Biomass Power

09-27-85

On 9-26-85 during telecon w/ S. Kloosky & D. Brettschneider about regulating NO_x & VOC from a wood boiler at Reotec's proposed wood hydrolysis plant in Lake City, they asked me how NO_x & VOC was reg'd at Biomass. I checked file and found that in the ACP (09-23-83) NO_x & VOC are not addressed. Also during the ACP processing review GBO did not include NO_x & VOC in the CP (12-01-83).

Then due to lack of staff at GBO in May 85 air permitting was transferred to Jax for the GBO area.

During my review of the part of completion of construction form ~~PSD~~ (in lieu of an AOP) I did not check the ACP processing calc's in enough detail to note the omission of NO_x & VOC. So the OP (07-24-85) does not address NO_x & VOC either.

NO_x & VOC emission rates calc's are on next page.

Biomass, owen

09-27-85

From ACP

wood fuel max $\frac{lbs}{hr}$ = 30,323 w/ 50% H_2O

$$30{,}323\ \frac{lbs}{hr} \left| \frac{T}{2000\ lbs} \right| \frac{24\ hr}{D} \left| \frac{7\ D}{W} \right| \frac{48\ W}{yr} = 122262.3\ TP$$

Using factors from AP-42, Table 1.6-1
(based on 50% H_2O in fuel)

$$NO_x = \frac{2.8\ lbs}{T} \left| \frac{T}{yr} \right| \frac{T}{2000\ lbs} = 171.2\ TPY$$

VOC = non CH_4 = 1.4

CH_4 = 0.3

$$\frac{1.7\ lbs}{T} \left| \frac{T}{yr} \right| \frac{T}{2000\ lbs} = 103.9\ T$$

Now call BT (CAPS) about what to do about this.

Discussed w/ BT; he said that since neither NO_x or VOC triggered PSD review no further review/action is req'd.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC40-75860 DATE: December 1, 1983

Company Name: Biomass Power Corporation County: Madison

Source Identification(s): Carbonaceous fuel fired boiler w/ wet venturi scrubber

Actual costs of serving pollution control purpose: $ 74,000

Operating Rates: 80,000 lb./hr. 7.5 MW Design Capacity: 80,000 lb./hr. 7.5 MW

Expected Normal 80,000 lb./hr. 7.5 MW During Compliance Test 6.8 MW

Date of Compliance Test: May 16, 1985 (Attach detailed test report)

Test Results:

Pollutant	Actual Discharge	Allowed Discharge
Particulate	0.1329 lb/MMBTU	~~.20~~ lb/MMBTU 0.181
Visible	15.9%	20%

Date plant placed in operation: April 15, 1985

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. AC40-75860 dated December 1, 1983.

A. Applicant:

John Matthews, Sr., President
Name of Person Signing (Type)

John Matthews Sr President
Signature of Owner or Authorized Representative and Title

Date: June 19, 1985 Telephone: 904-489-~~3711~~ 3391

B. Professional Engineer:

Martin H. Rasmussen
Name of Person Signing (Type)

Martin H. Rasmussen
Signature of Professional Engineer

RASMUSSEN-BYRNE ENGINEERING, Inc.
Company Name

Florida Registration No. 22932

Date: June 18, 1985

(Seal)

P.O. Box 506 Pensacola FL 32593
Mailing Address

904-432-2888
Telephone Number

*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.

Plant # 973-4718

BIOMASS POWER CORPORATION 1284
D.I.P.
145 CAMP DRIVE, 904-489-3711
DUNNELLON, FL 32630

BEST AVAILABLE COPY

167

6-19 19 85 63-72/631 810

PAY TO THE ORDER OF Dept. Environmental Regulation $ 500.00

Five Hundred and 00 DOLLARS

Sun Bank of Ocala
Dunnellon Office 810
Post Office Box 310
Ocala, Florida 32678

FOR [redacted]

HARLAND ES-2 3

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 91900

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Biomass Power Corp Date June 21, 1985

Address 145 Camp Dr. Dunnellon 32630 Dollars $ 500.00

Applicant Name & Address [redacted]

Source of Revenue Biomass Power Corp

Revenue Code 001372 ck # 167 Application Number A040-105819

752 60 By [redacted]

RASMUSSEN-BYRNE ENGINEERING, INC.

P.O. BOX 506
PENSACOLA, FL 32593
904/432-2888

June 18, 1985

Mr. John Brown, Supervisor Air Section
Florida Department of Environmental Regulation
Northeast District
3488 Bills Road
Jacksonville, FL 32207

Dear Mr. Brown:

The following presents a brief chronology of the events that occured in the preparation of the Biomass woodfuel burning generation facility in Madison, Florida. The time required for the necessary work has consumed the allowed permit extension which now expires on June 30, 1985.

LIST OF EVENTS

March 2, 1984 Construction interupted because of insufficient construction funds.

August 2, 1984 Filed under chapter 11 of the Federal Bankrupcy Act for the release of the reserve fund monies for the completion of construction.

December 20, 1984 Received Federal Court approval to use reserve money for the remainder of the construction work.

March 15, 1985 Construction work completed and start-up effort began.

April 15, 1985 Facility has been demonstrated to be operable.

May 16, 1985 Emissions Source Testing Performed.

June 1, 1985 Emissions test report prepared.

We are at this time submitting the Certificate of Completion of Construction for the facility along with a check for processing fee of FIVE HUNDRED DOLLARS ($500.00). Also enclosed is a copy of a letter from the Indentured Trustee (Sun Bank N.A.) authorizing the firm of RASMUSSEN-BYRNE ENGINEERING, Inc. to proceed with the engineering work as required. RASMUSSEN-BYRNE ENGINEERING,Inc. was recently established when the firm who had

employed Mr. Rasmussen relocated its Pensacola operation to Charlotte, NC.

At your suggestion we are requesting an additional extension to Construction Permit # AC40-75860 to allow the necessary time for processing the operating permit without interupting the operation of the facility.

Please call at any time if there are any questions concerning this application

Very Truly Yours,

RASMUSSEN-BYRNE ENGINEERING Inc.

M.H. Rasmussen

M.H. Rasmussen, P.E., President

enc

MHR/mr

Madison Co. - AP

Biomass

06-17-85

Marty Rasmussen, PE (904-432-2888) in Pensacola called about requirements.

1. apt
2. cert of compl
3. fee
* 4. ~~test~~ rpt if not already sent. ✓

* 6/21 Test rpt in ~~processing~~ review drawer. ✓

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

file

June 11, 1985

Mr. John Matthews, Sr., President
Biomass Power Corporation
145 Camp Drive
Dunnellon, Florida 32630

Dear Mr. Matthews:

Madison County - AP
Biomass Power Corporation
Wood Boiler

Our records show that permit No. AC40-75860 for wood boiler expires June 30, 1985.

Please submit the enclosed form and an application processing fee of $500 by June 20, 1985.

Also request a six month extension including reasons for not submitting the operation permit application on time.

If there are any questions please contact us.

Sincerely,

John C. Brown, Jr.

John Brown, P.E.
Supervisor Air Section

JB:jck

Enclosure

file 06-10-85

Brenner - AP

max E_{AL} = 24.65 lbs/hr × 4.032 = 99.39 TPY

@ a rate of 0.181* lb/MMBTU

* to avoid review by CAPS

Run 1

$$E_{AL} = \frac{37901 \text{ DSCF}}{\text{min}} \left| \frac{20.9-9}{20.9} \right| \frac{\text{MMBTU}}{9600 \text{ DSCF}} \left| \frac{60 \text{ min}}{\text{hr}} \right| .181 = 24.41$$

(134.9)

$$E_{AT} = \frac{173.8}{453592} \left| \frac{}{45.28} \right| \frac{37901}{} \left| \frac{60}{} \right. = 19.24$$

07-12-85

avg

$$E_{AL} = \frac{36732}{} \left| \frac{20.9-9}{20.9} \right| \frac{}{9600} \left| \frac{60}{} \right| .181 = 23.66$$

(125.78 = 92.4% of 136.18)

$$E_{AT} = \frac{161.8}{453592} \left| \frac{}{43.48} \right| \frac{36732}{} \left| \frac{60}{} \right. = 18.08$$

OP limit will be -

PM	24.65 lbs/hr *	99 TPY
~~VE~~	< 17-2.600(10)(b)2.b.	

* based on 0.181 lb/MMBTU × 136.18 MMBTU/hr

VE 35% opacity, except 40% for 2 min/hr
17-2.600(10)(b)2.a.

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: NORTHEAST DISTRICT Date Due: _____

TO: Frank Watkins, PE BPW

THROUGH: R. P. Vogh, PE RPV

FROM: G. A. DeMuth, Eng IV GAD

DATE: May 30, 1984

SUBJECT: Biomass Power Corporation - Madison AP

This memo is to request the expiration date on permit number AC40-75860 be amended to June 30, 1985 (please see attached memo). A letter for your signature is included.

GAD:ehw

William M. Bishop

Consulting Engineers, Inc.

TELEPHONE (904) 222-0334

P.O. BOX 3407
715 NORTH CALHOUN STREET
TALLAHASSEE, FLORIDA 32303

May 1, 1984

Florida Department of Environmental
Regulation
825 Northwest 23rd Avenue, Suite 6
Gainesville, Florida 32601

Attention: Mr. Richard Lusk

Re: Air Pollution Source Construction Permit #AC40-75860
Biomass Power Corporation - Madison Plant
WMBCE No. 3101.3

Dear Mr. Lusk:

We request that the time period of the above referenced permit be extended for one year to an expiration date of June 30th, 1985.

Due to a lack of funds, the Biomass Power Corporation has halted work on the project. The boiler is complete and ready for testing but the turbine-generator has not been installed.

Biomass Power Corporation is attempting to raise capital and/or sell the plant. At this time, it is unknown how much time will be required for this effort. There is also the possibility of lawsuits which could tie up the property until they are resolved.

If we receive further information or if funds become available, we will contact you at once.

Sincerely,

WILLIAM M. BISHOP CONSULTING ENGINEERS, INC.

William P. Adams, P.E.

WPA/mmc

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: _____	

TO: Frank Watkins, PE III

THROUGH: Greg DeMuth, Eng IV

FROM: Rick Lusk, Eng III OPS

DATE: November 29, 1983

SUBJECT: Biomass Power Corporation
Carbonaceous Fuel Burning Equipment (AC40-75860)
Madison, Madison County

This is to inform you that the authorized representative of the subject air pollution source has applied for a permit to construct. I have enclosed the specific conditions for issuance of this permit to the applicant for your review. In addition, I have enclosed the PATS Master Record and one copy of the permit application (one copy was provided to Fred Birnie for his comments regarding industrial waste). I will prepare and input APIS data in conjunction with the operation permit application.

Based upon a review of the information provided by the applicant, it is felt that this project meets Departmental criteria for issuance of an air pollution source construction permit.

If you require additional information, please advise.

Enclosure
RL/ehw

J. Oven 29 D. Hey

William M. Bishop

Consulting Engineers, Inc.

TELEPHONE (904) 222-0334
P.O. BOX 3407
715 NORTH CALHOUN STREET
TALLAHASSEE, FLORIDA 32315-0407

October 18, 1983

Florida Department of Environmental
Regulation
825 Northwest 23rd Avenue, Suite G
Gainesville, Florida 32601

Attention: Mr. Richard Lusk - Air Pollution Section

Re: Application to Construct/Operate Air Pollution
Source - Biomass Power Corporation
Madison Plant

Dear Mr. Lusk:

This letter is to provide additional information for the above referenced permit application as outlined in your letter dated 9/27/83.

Points No. 1, and 4 through 7 relate to the boiler design and have been answered by the Perry Smith Company. Please see the attached letter for details.

In answer to point No. 2 of your letter, the scrubber pond size is based upon sedimentation rates established by jar tests in this office. Scrubber water samples from the boiler at Coastal Lumber Company, Havana, Florida, were agitated and allowed to settle.

Most solids settled within two hours with only the finest particles requiring about 4 hours to settle. Accordingly, the scrubber ponds are designed with a 4.69 hour retention time per cell at the operating level. The cells will be operated in series which will give a 9.38 hour retention time.

With regard to point No. 3, the scrubber pond water will be monitored on a weekly basis using the lab equipment used for boiler water treatment. Chemicals, if necessary, will be added on a batch basis.

If you have any further questions, please do not hesitate to contact us.

Sincerely,

WILLIAM M. BISHOP CONSULTING ENGINEERS, INC.

William P. Adams, P.E.

WPA/mmc

cc: Mr. John Matthews, Sr.

Best Available Copy

pd. $750
Sept. 23, 1983

15860

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Carbonaceous Fuel Fired Boiler [x] New[1] [ ] Existing[1]

APPLICATION TYPE: [x] Construction [ ] Operation [ ] Modification

COMPANY NAME: BIOMASS POWER CORPORATION COUNTY: Madison

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) No. I Carbonaceous Fuel Fired Boiler w/Wet Venturi Scrubber

SOURCE LOCATION: Street 1.5 Miles North of Madison on Co. Rd 591 City Madison

UTM: East _____ North _____

Latitude 30 ° 30 ' 0 "N Longitude 83 ° 23 ' 45 "W

APPLICANT NAME AND TITLE: Mr. John Matthews, Sr., President

APPLICANT ADDRESS: 145 Camp Drive, Dunnellon, Florida 32630

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of BIOMASS POWER CORPORATION

I certify that the statements made in this application for a Air Pollution Source Construction 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: John C. Matthews

John Matthews, Sr., President
Name and Title (Please Type)

Date: 9/14/83 Telephone No. (904) 489-3711

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 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.

Air Pollution Emissions only — water pollution design by others.

(Affix Seal)

Signed: Henry C. Jobe

Henry C. Jobe
Name (Please Type)

Perry Smith Company, Inc.
Company Name (Please Type)

P. O. Box 21282, Chattanooga, TN 37421
Mailing Address (Please Type)

Florida Registration No. 30604 Date: 7/11/83 Telephone No. (615) 892-7130

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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 ATTACHED SHEET

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction June, 1983 Completion of Construction December, 1983

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.)

Multiclone Dry Ash Collector	$27,000.00
Wet Venturi Scrubber & Separator	$40,000.00
Overfire Air System	$ 7,000.00

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

NONE

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

F. Normal equipment operating time: hrs/day 2724; days/wk 7 ; wks/yr 48 ; if power plant, hrs/yr 8,064 ;

if seasonal, describe: ____

G. 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 Deterioriation" (PSD) requirements 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

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION II: GENERAL PROJECT INFORMATION

A. The project consists of the installation of a waste carbonaceous fuel fired boiler, 80,000 pounds of steam per hour, with all supporting facilities designed to generate electrical power for sale to Florida Power Corporation. Particulate pollution control equipment will consist of a dry multiclone dust collector, wet venturi scrubber and vertical separator. The induced draft fan will produce the necessary static for the required pressure drop encountered in the flue gas train. Opacity will be controlled by the installation of an overfire air system on the boiler plus a completely automatic combustion control system with fuel/air ratio control. Design of the project, along with proper operation, will result in full compliance with the requirements of the State of Florida Department of Environmental Regulations as regards particulate emissions and visible emissions (opacity).

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
	SEE SECTION III, E. FUELS			

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): See Section III, E. Fuels

2. Product Weight (lbs/hr): " " " , E. Fuels

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate (Flyash)	21.54	86.85	0.181 pounds/MM BTU	24.65	1,077	4,343	Point No. 4
			Input. 17-2,600(10)(b)				
Visible Emissions	N/A	N/A	Number 1.5 Ringelmann	N/A	N/A	N/A	Point No. 4
(Opacity)			17-2.600(10)(b)				

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
Western Precipitation	Particulate	80%	N/A	See
12VM35, Size 50-5 Multiclone				Attached
				Calculation
Perry Smith Co.	Particulate	90%		Sheets
Model 80M Venturi Scrubber				
and Vertical Separator				

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Bark & Waste Wood Mix	30,323 Lbs/Hr.	30,323 Lbs/Hr.	136.18

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 0.00 Percent Ash: 0.27

Density: 20-25 Lbs./C.F. lbs/gal Typical Percent Nitrogen: 0.22

Heat Capacity: 4,491 BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Dry solid wastes (ash) will be removed from the grates at the boiler front and from the "Multiclone" thru rotary seal valves and disposed of in landfill. Semi-wet waste will be removed from scrubber circulating ponds and disposed of in land fill.

rev'd 4-25-90

*See Attached Sheet

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 69'-4 5/8" (Above Grade) ft. Stack Diameter: 5'-9 5/8" I.D. ft.

Gas Flow Rate: 52,650 ACFM Gas Exit Temperature: 151 °F.

Water Vapor Content: 17.4% (By Weight) % Velocity: 33.2 FPS

(See Attached Sheets Regarding Stack)

SECTION IV: INCINERATOR INFORMATION

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.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

BIOMASS POWER CORPORATION
MADISON, FLORIDA

Calculations for Application to Construct
Air Pollution Source

Boiler: Bigelow Size KVS-2836
Capacity: 80,000 Lbs./Hr., 410 PSIG, 705° FTT

Fuel Analysis:	Percent by Weight
Ash	0.27
Sulfur	0.00
Hydrogen	2.95
Carbon	26.98
Nitrogen	0.22
Oxygen	19.58
Water	50.00

BTU Value/Pound (As Fired): 4,491
Pounds of Fuel Burned/Hour: 30,323
Heat Input Per Hour: 136.18 MM BTU's

Allowable Particulate Emissions per DER 17-2.600(10)(b) 2.b. or 17-2.650(2)(c)3.b(i) = 0.181 pounds/MM BTU Heat Input

0.181 x 136.18 = 24.65 Pounds/Hour

Mass Flue Gas Flow = 178,409 Lbs./Hr @ 50% x-cess air

Flue Gas Volume = 41,880 SCFM

Estimated Particulate Loading at boiler exit = 3 Grains/SCF

41,880 x 3 = 125,640 Grains/Minute

125,640 ÷ 7,000 = 17.95 Pounds/Minute

17.95 x 60 = 1,077 Pounds/Hour

PARTICULATE CONTROL EQUIPMENT

1. Western Precipitation "Multiclone", Model 12 VM 35, Size 50 - 5. (Brochures Enclosed)

   Performance Data:
   88,500 ACFM @ 650°F with 2.51" w.g. ΔP

Collection efficiency based on manufacturer's calculations and data obtained from prior installations > 80%

Particulate Loading Entering "Multiclone" = 1,077 Pounds/Hour

Particulate Loading at exit of collector @80% efficiency
= 20% x 1,077 = 215.4 Pounds/Hour

2. Perry Smith Company Model 80M wet venturi scrubber with vertical moisture separator. (Dwg. No's. D-0760 & D-0761 and Performance Curve on Gorman - Rupp scrubber circulating pump enclosed)

Performance Data:

64,600 ACFM @ 350°F with 6" w.g. ΔP in venturi and 2" w.g. ΔP in separator.
Water scrubbing rate = 500 - 600 GPM
Water evaporation rate = ~20 GPM

Collection efficiency based on data obtained from prior installations > 90%

Particulate Loading entering venturi scrubber
= 215.4 pounds/hour

Particulate emissions at stack exit @90% efficiency
=10% x 215.4 = 21.54 pounds/hour

21.54 Lbs./Hr < 24.65 Lbs./Hr. allowed

Tons emitted per year based on 8,064 hours operation = 86.85

Test method to prove conformance with Florida Air Pollution Control Requirements to be per EPA Test Method 5.

Allowable Visible Emissions per DER 17-2.600(10)(b) 2.a or 17-2.650(2)(c) 3.b(ii) to be no greater than number 1.5 on the Ringelmann Chart (30% Opacity).

The boiler is equipped with a completely automatic combustion control system with fuel/air ratio control. The boiler will also have an overfire air system creating turbulence in the furnace and further complete combustion of hydrocarbons and small particles of suspended fuels. The combination of these items assures that the visible emissions will meet the Florida Air Pollution Control Requirements.

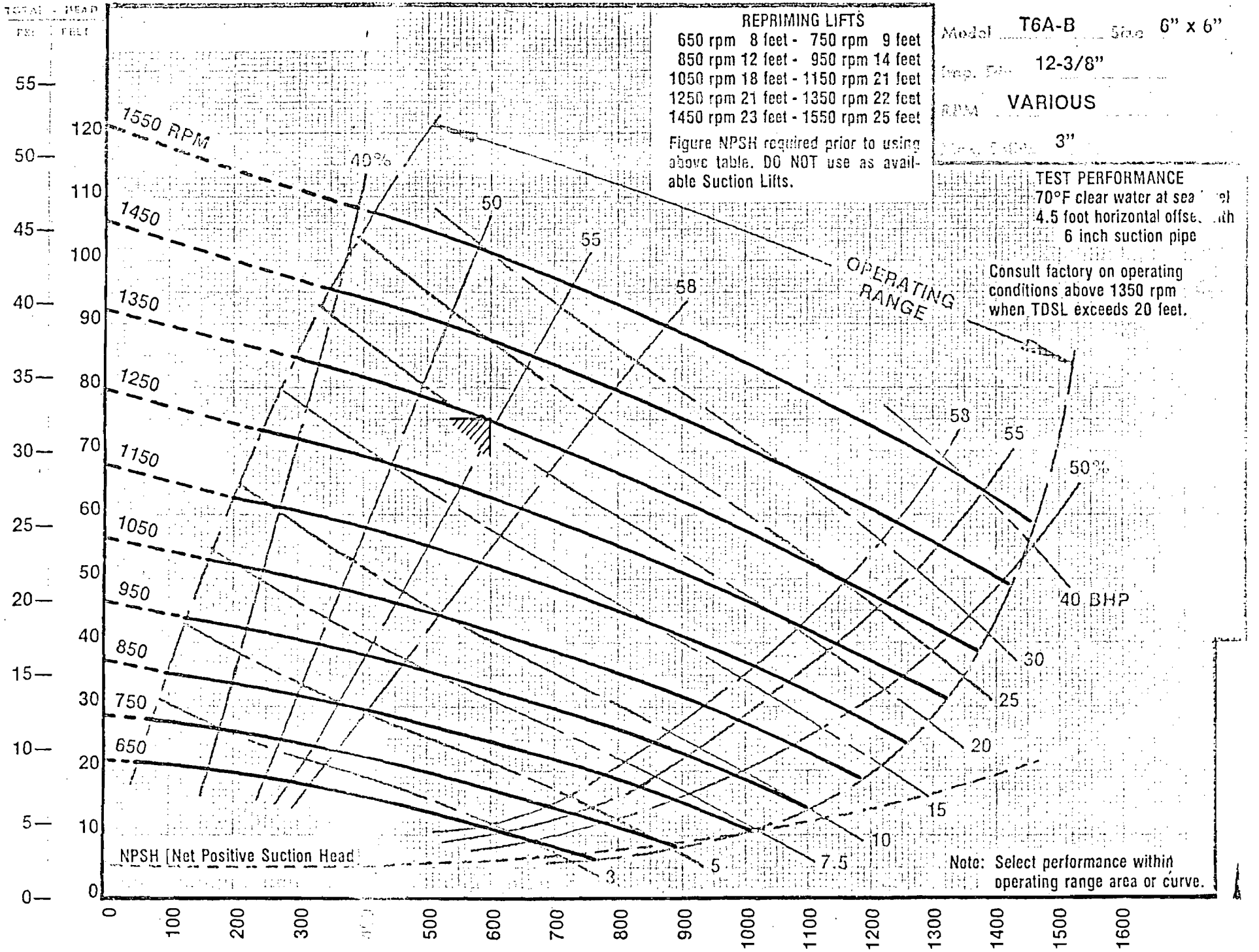
Test method to prove conformance with Florida Air Pollution Control Requirements to be per DER Method 9 or EPA Method 9 (with exceptions).

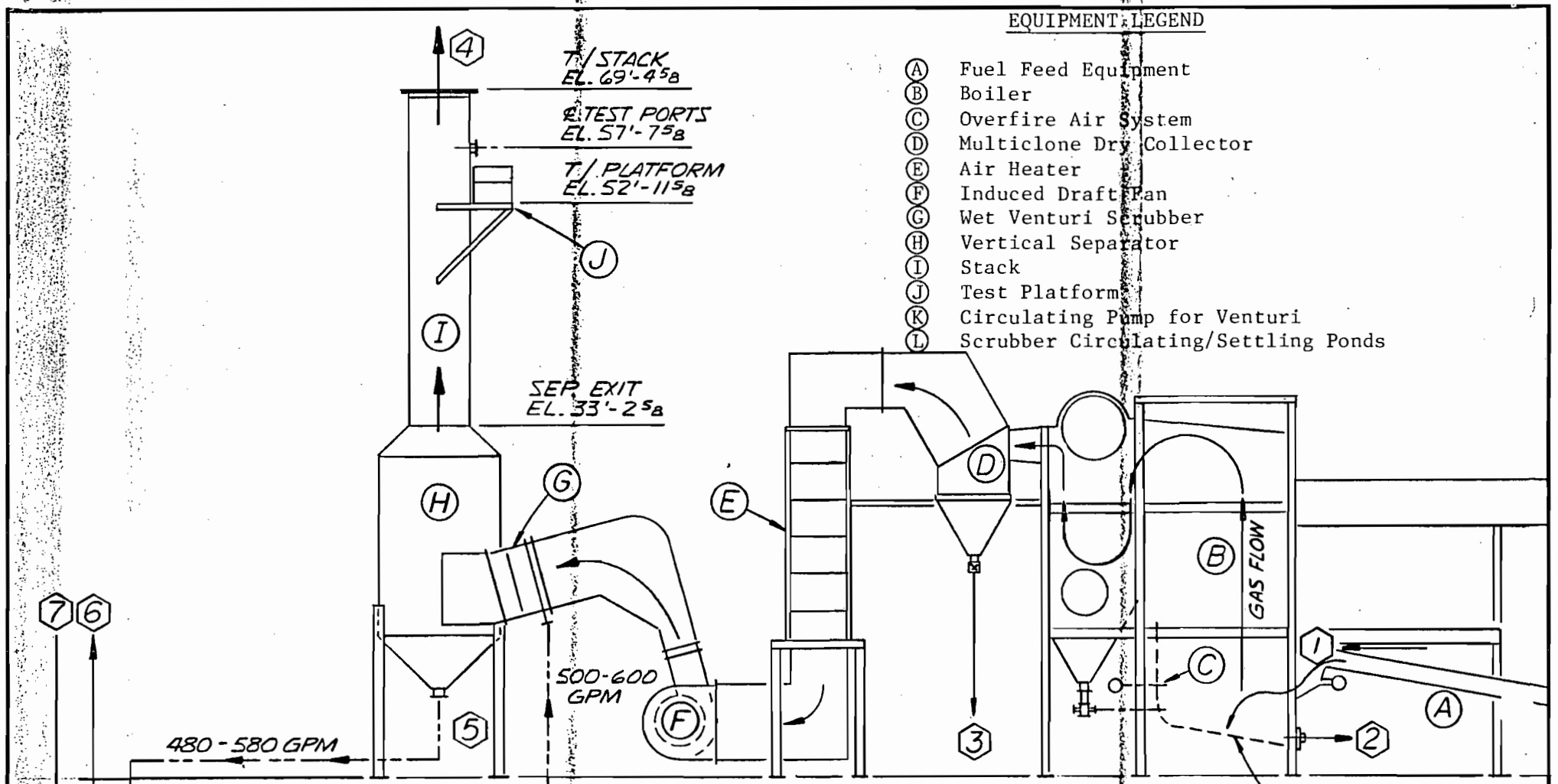
EMISSION STACK GEOMETRY & FLOW CHARACTERISTICS

Stack I.D. = 5'-9 5/8"
Stack Area = 26.44 S.F.
Height of Stack Above Grade = 69'-4 5/8"
Height of Test Parts above Grade = 57'-7 5/8"
Height of Test Platform above Grade = 52'-11 5/8"
Height of Separator Exit above Grade = 33'-2 5/8"

Test Ports: 2-4" IPS w/MPT Connections, 90° apart
Test Platform: 126°
Platform Access: Ladder w/Saf-T-Climb w/3-Belts
Electrical Power: 2 - 120V, 20A outlets at platform.

(Dwg. No's. D-0830 & D-0840 Enclosed)


REPRIMING LIFTS
650 rpm 8 feet - 750 rpm 9 feet
850 rpm 12 feet - 950 rpm 14 feet
1050 rpm 18 feet - 1150 rpm 21 feet
1250 rpm 21 feet - 1350 rpm 22 feet
1450 rpm 23 feet - 1550 rpm 25 feet
Figure NPSH required prior to using above table. DO NOT use as available Suction Lifts.
Model T6A-B Size 6" x 6"
12-3/8"
RPM VARIOUS
3"
TEST PERFORMANCE
70°F clear water at sea level
4.5 foot horizontal offset with
6 inch suction pipe
Consult factory on operating conditions above 1350 rpm when TDSL exceeds 20 feet.
TOTAL HEAD
FEET
1550 RPM
1450
1350
1250
1150
1050
950
850
750
650
40%
50
55
58
OPERATING RANGE
50%
40 BHP
30
25
20
15
10
7.5
5
3
NPSH [Net Positive Suction Head
Note: Select performance within operating range area or curve.
0
100
200
300
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600



① Fuel Inlet: 30,323 pounds/Hour
② Bottom Dry Ash Removal: Approx. 25-50 pounds/Hour
③ Multiclone Dry Ash Removal: Approx. 861 pounds/Hour
④ Stack Emission Point: 52,650 ACFM, 151°F, approx. 22 Lbs/Hr Particulate, Opacity ≦ 30%, approx. 20 GPM Water Evaporated
⑤ Separator Discharge to Pond: Approx. 480-580 GPM, approx. 194 Lbs/Hr. of Particulate
⑥ Semi-Dry Ash Removal from Pond: Approx. 782 Tons/Year
⑦ Make-up Water from C.T. Blowdown & Equipment Room Drains: Approx. 20 GPM

BIOMASS POWER CORP.
MADISON, FLA.
FLOW SCHEMATIC

Attachment to Application to Operate/Construct

Air Pollution Sources

Biomass Power Corporation
Madison Plant

This is to certify that the engineering features of the water pollution portion 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 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: 

William P. Adams, P.E.
Name (Please Type)

(Affix Seal)

William M. Bishop Consulting Engineers, Inc.
Company Name (Please Type)

P.O. Box 3407, Tallahassee, FL 32315
Mailing Address (Please Type)

Florida Registration No. 31047 Date: 9/16/83 Telephone No. (904) 222-0034

Attachment to Application to Operate/Construct Air Pollution

Biomass Power Corporation
Madison Plant

Attachment to Section III, Part G, Page 4

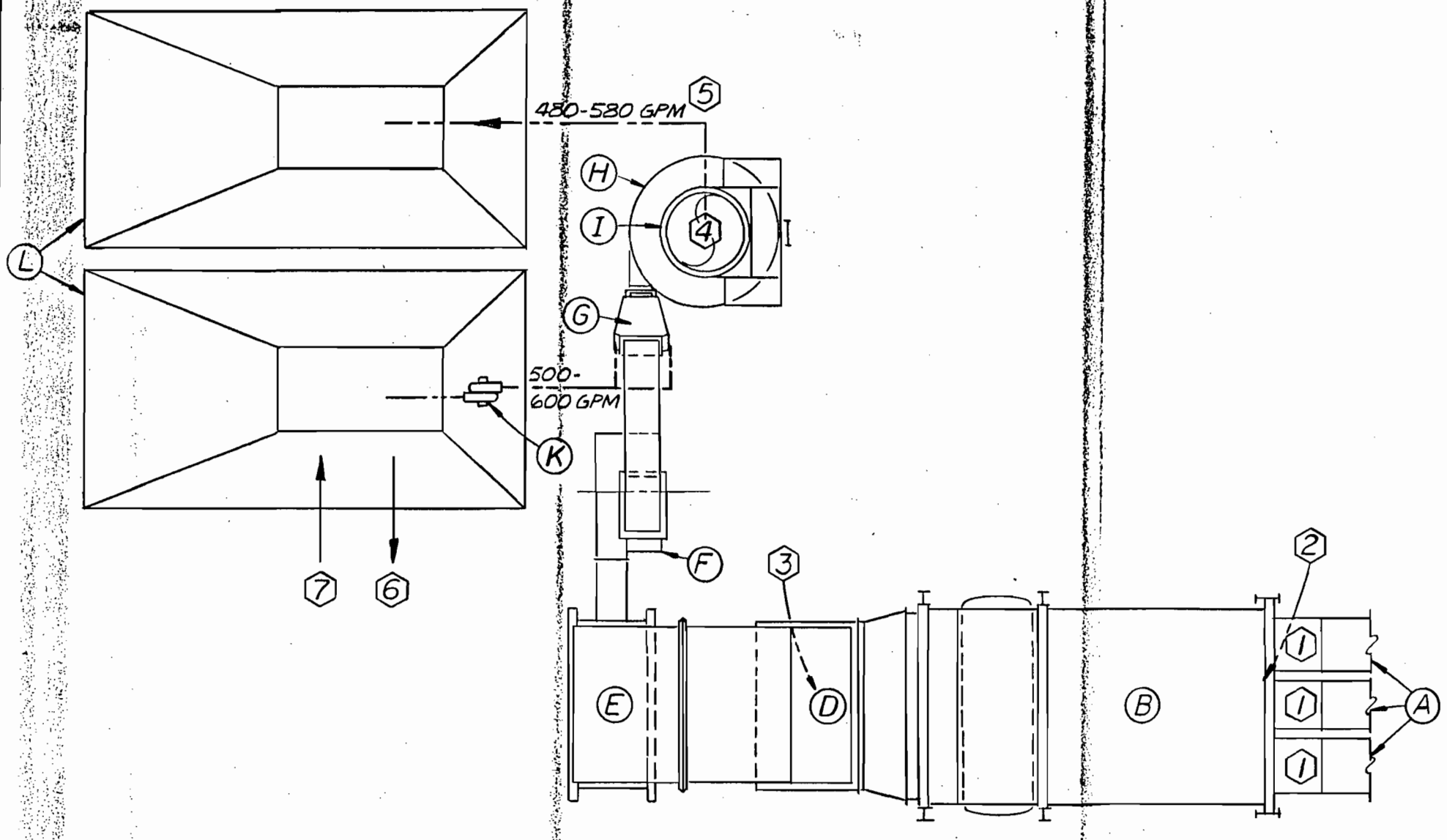
A water balance diagram is attached which details water use throughout the plant.

The scrubber pond system is a closed loop system and will lose water from stack evaporation only.

The scrubber ponds are to be of concrete construction to prevent any seepage into the groundwater. See attached site plan, Sheet EV-1.

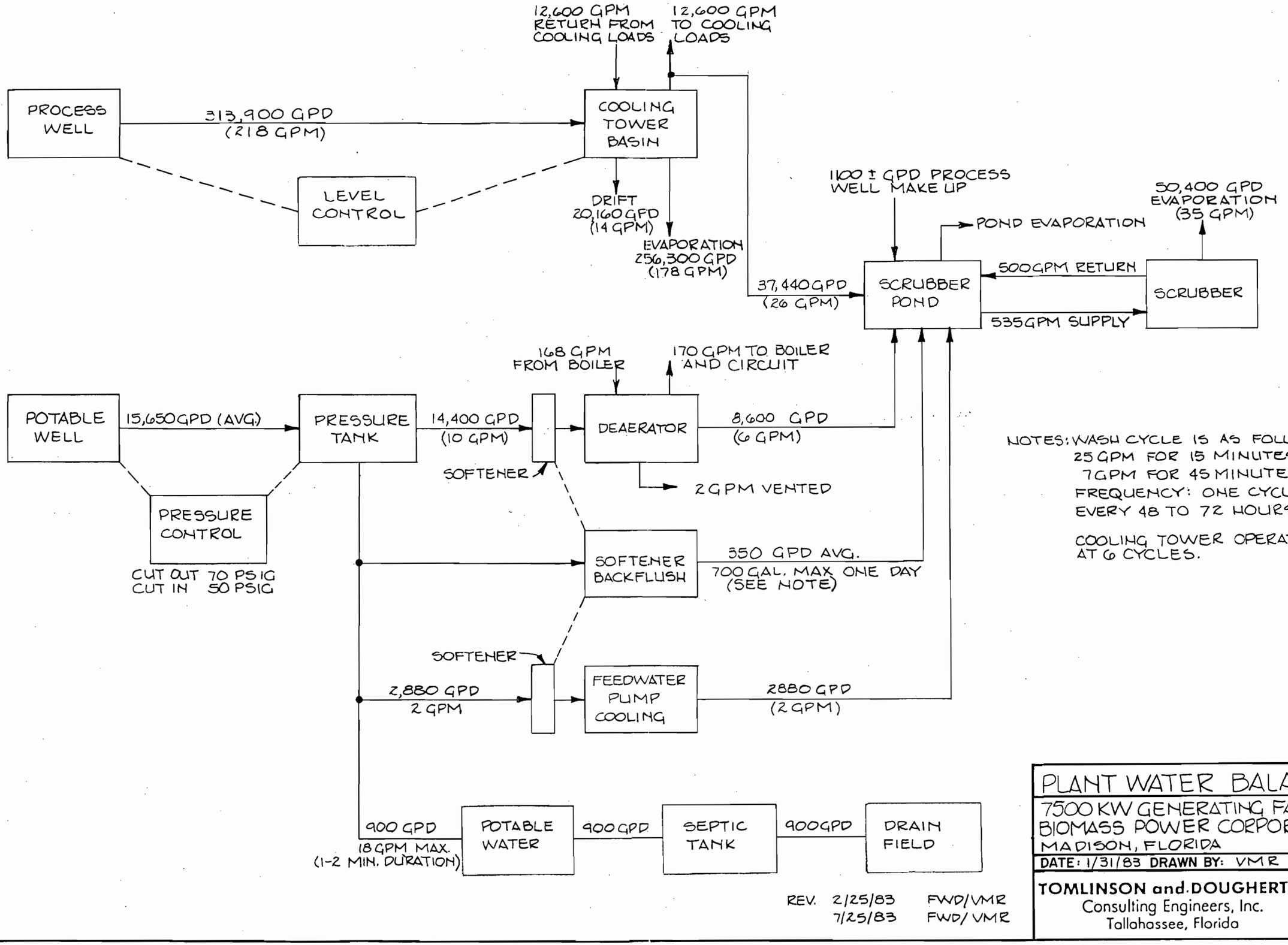
Make-up water for the scrubber ponds will come from boiler blowdown softener backwash, and cooling tower blowdown. Additional make-up water will come from the process well.

The dry ashes will be used as a soil conditioning agent in the surrounding areas of the county. Ashes produced in excess of the demand for immediate use will be stored in the existing borrow pit on the property for later reclaiming. Wet ashes from the scrubber ponds will be disposed of in a Class I landfill in accordance with DER regulations.



NOTE:
FOR EQUIPMENT & FLOW LEGEND,
SEE FLOW SCHEMATIC.

BIOMASS POWER CORP.
MADISON, FLA.
PLOT PLAN



NOTES: WASH CYCLE IS AS FOLLOWS:
25 GPM FOR 15 MINUTES
7GPM FOR 45 MINUTES
FREQUENCY: ONE CYCLE EVERY 48 TO 72 HOURS.

COOLING TOWER OPERATING AT 6 CYCLES.

REV. 2/25/83 FWD/VMR
7/25/83 FWD/ VMR

PLANT WATER BALANCE

7500 KW GENERATING FACILITY
BIOMASS POWER CORPORATION
MADISON, FLORIDA

DATE: 1/31/83 DRAWN BY: VMR

TOMLINSON and DOUGHERTY
Consulting Engineers, Inc.
Tallahassee, Florida

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 75215

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Madison / Biomass Const Date Sept 23 1983

Address 145 Camp Dr Dunnellon 32630 Dollars $ 750.00

Applicant Name & Address John Matthews Same

Source of Revenue Biomass Power Corp

Revenue Code 010001 A #207787 Application Number AC 40-75860

By Vera Bell

FLAGSHIP BANK OF TAMPA
Tampa, Florida 33601

TRUST DEPARTMENT

63-32
631

ACCOUNT 92731900 MADISON/BIOMASS CONSTR FUND

No. 207787 JULY 28, 1983

PAID FL DEPT OF ENVIRONMENTAL REGULATION FOR AIR POLLUTION PERMIT (REQ 22)

$*******750.00

SEVEN HUNDRED FIFTY** AND 00/100**

PAY TO THE ORDER OF FL DEPT OF ENVIRONMENTAL REGULATION

[redacted]