

Check Sheet

Company Name: *Central Florida Pipeline*

Permit Number: *AC 48-188406*

PSD Number:

County: *Orange*

Permit Engineer:

Others involved:

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Final Application (if applicable)
- Waiver of Department Action
- Department Response

Intent:

- Intent to Issue
- Notice to Public
- Technical Evaluation
- BACT Determination
- Unsigned Permit

Attachments:

- 
- 
- 
- Correspondence with:
  - EPA
  - Park Services
  - County
  - Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination

Post Permit Correspondence:

- Extensions
- Amendments/Modifications
- Response from EPA
- Response from County
- Response from Park Services

In the folder labeled as follows there are documents, listed below, which were not reproduced in this electronic file. Those documents can be found in the supplementary documents file drawer. Folders in that drawer are arranged alphabetically, then by permit number.

Folder Name: Central Florida Pipeline  
Orange County  
Permit(s) numbered: AC 48-188406

Period During Which  
DOCUMENT WAS  
SUBMITTED  
(APPLICATION, PD & TE,  
FINAL DETERMINATION,  
POST PERMIT)

Application 01/07/91

Detailed Description

1. 22"x34" (JOHN ZINK CO.) -  
TYPE GVLH FLARE UNIT)  
PIPING AND INSTRUMENT  
DIAGRAM - Blueprint Drawing  
No. D-30-FA-100
2. 22"x34" VAPOR RECOVERY FLARE  
UNIT BYPASS TIE-IN PIPING  
AND INSTRUMENT DIAGRAM  
22"x34" BLUEPRINT  
D-30-FA-101
3. (JOHN ZINK CO.) VAPOR  
RECOVERY SYSTEMS PIPING AND  
INSTRUMENT DIAGRAM -  
Blueprint DRAWING NO.  
D-30-FA-102

P 832 539 792



### Certified Mail Receipt

No Insurance Coverage Provided  
Do not use for International Mail  
(See Reverse)

Sent to	Tom Rigg
Street & No.	Central Fla Pipeline
P.O., State & ZIP Code	100 GATK Dr Tampa, FL
Postage	\$1
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	6-10-91 AC 48-188406

PS Form 3800, June 1990

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Tom Rigg man. of Fla. Operations Central Fla Pipeline Corp 100 GATK Dr. Tampa, FL 33605	4. Article Number P 832 539 792
5. Signature — Addressee X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature — Agent X [Signature]	Always obtain signature of addressee or agent and <b>DATE DELIVERED.</b>
7. Date of Delivery 6-10-91	8. Addressee's Address (ONLY if requested and fee paid)

*File Copy*



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

## STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION NOTICE OF PERMIT

Mr. Tom Rigg  
Manager of Florida Operations  
Central Florida Pipeline Corporation  
100 GATX Drive  
Tampa, Florida 33605

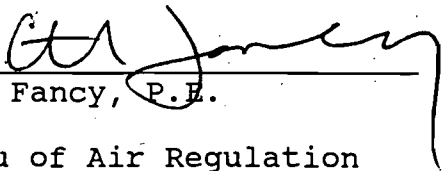
June 10, 1991

Enclosed is construction permit AC 48-188406 to construct a flare system. This permit is issued pursuant to Section 403, Florida Statutes.

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

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

Copy furnished to:

- C. Collins, Central Dist.
  - S. L. Strehler, P.E.
  - D. Nester, Orange Co. EPD
- Ready File } 5-10-91 xvt*  
*Mirza Baig*

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 6-10-91.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to  
§120.52(9), Florida Statutes, with  
the designated Department Clerk,  
receipt of which is hereby  
acknowledged.

Kim Jones  
Clerk

6-10-91  
Date

**Final Determination**

**Central Florida Pipeline Corporation  
Orange County  
Taft, Florida**

**Bulk Gasoline Terminal - John Zink Flare  
Loading Racks TN6 and C4  
Permit No. AC 48-188406**

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

**May 24, 1991**

## Final Determination

The Technical Evaluation and Preliminary Determination for the permit to construct a John Zink Flare at Central Florida Pipeline Corporation, Taft, Orange County, Florida, was distributed on April 3, 1991. The Notice of Intent to Issue was published in the Orlando Sentinel on April 17, 1991. Copies of the evaluation were available for public inspection at the Department's Orlando and Tallahassee offices and at the Orange County Environmental Protection Department.

No comments were received on the Department's Intent to Issue the permit. The final action of the Department will be to issue construction permit AC 48-188406 as proposed in the Technical Evaluation and Preliminary Determination

346 p<sup>2</sup>

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
NOTICE OF PERMIT

Mr. Tom Rigg  
Manager of Florida Operations  
Central Florida Pipeline Corporation  
100 GATX Drive  
Tampa, Florida 33605

May \_\_, 1991

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Executed in Tallahassee, Florida.

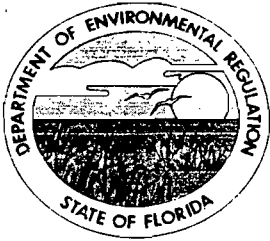
STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

\_\_\_\_\_  
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

Copy furnished to:

C. Collins, Central Dist.  
S. L. Strehler, P.E.  
D. Nester, Orange Co. EPD





# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

**PERMITTEE:**

**Central Florida Pipeline Corp.**  
100 GATX Drive  
Tampa, Florida 33605

**Permit Number: AC 48-188406**

**Expiration Date: June 30, 1992**

**County: Orange**

**Latitude/Longitude: 28°25'19"N  
81°22'01"W**

**Project: Loading Racks TN6 and C4  
Controlled by a John Zink Flare**

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

For the modification of an existing Bulk Gasoline Terminal consisting of five loading racks (T1, T2, TX3, TN6, and C4) to bottom load petroleum products into truck tank, equipped with a John Zink Company Carbon Adsorption Vapor Recovery Unit to control VOC emissions. Vapors from loading racks TN6 and C4 will be routed to a flare, while VOC emissions from loading racks T1, T2, and TX3 will be controlled by the existing Vapor Recovery Unit.

This permit is to allow construction of vapor collection system from loading racks TN6 and C4, consisting of six unleaded gasoline and two diesel fill connections, and eight unleaded gasoline and two diesel fill connections, respectively. Each loading rack has two loading bays and each loading bay can load four trucks per hour with 8,000 gallons of fuel per truck.

VOC emissions generated during these truck loading operations are controlled by a John Zink Flare (Model GV-LH-8400-2), an air assisted open flame combustor. The flare pilot flame is fired at a maximum of 1.2 gal/hr of LPG (propane) and a heat input of 0.11 MBtu/hr.

The maximum throughput from this source shall not exceed 108,800 gal/hour of unleaded gasoline and 19,200 gal/hour of diesel and a yearly maximum of 10,200,000 bbl of unleaded gasoline and 1,800,000 bbl of diesel.

This facility is located at 9919 Palm Avenue, Taft, Orange County, Florida. The UTM coordinates are Zone 17, 463.8 km East and 3143.8 km North.

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

PERMITTEE: Central Florida Pipeline Corp. Permit Number: AC 48-188406  
Expiration Date: June 30, 1992

Attachments are listed below:

1. Application received October 17, 1990.
2. DER incompleteness letter dated November 15, 1990.
3. Applicant's partial response received January 17, 1991.
4. Applicant's final response received March 25, 1991.

**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.

PERMITTEE: Permit Number: AC 48-188406  
Central Florida Pipeline Corp. Expiration Date: June 30, 1992

**GENERAL CONDITIONS:**

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

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

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

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

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

**PERMITTEE:**

**Central Florida Pipeline Corp.**

**Permit Number: AC 48-188406**

**Expiration Date: June 30, 1992**

**GENERAL CONDITIONS:**

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or 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 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. 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

PERMITTEE: Central Florida Pipeline Corp. Permit Number: AC 48-188406  
Expiration Date: June 30, 1992

**GENERAL CONDITIONS:**

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.

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

**SPECIFIC CONDITIONS:**

1. This source shall be allowed to operate continuously (8,760 hrs/year).
2. The following emission limitations shall apply to this source:
  - a. Pursuant to 40 CFR 60, Subpart XX, which is adopted by reference under F.A.C. Rule 17-2.660, volatile organic compounds emissions from this source shall not exceed 35 mg/lit, 31.9 lbs/hr, and 62.6 tons/year.
  - b. Pursuant to 40 CFR 60.18(c)(3), flares shall be designed and operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
  - c. Pursuant to 40 CFR 60.18(c)(5), air assisted flares shall be designed and operated with an exit velocity less than the velocity  $V_{max}$ . According to the construction permit application,  $V_{max}$  is 63.2 ft/sec.

PERMITTEE:

Central Florida Pipeline Corp.

Permit Number: AC 48-188406

Expiration Date: June 30, 1992

**SPECIFIC CONDITIONS:**

- d. Pursuant to 40 CFR 60.18(c)(3), air assisted flares shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater. The minimum heating value according to the construction permit application is 400 Btu/scf.
  - e. Flares shall be operated with a flame present at all times and the gas exit temperature of at least 1600°F when VOCs are being emitted from the unit. The presence of a flare pilot flame shall be monitored and recorded continuously using a thermocouple or any other equivalent device approved by the Department to detect the presence of a flame.
  - f. Pursuant to 40 CFR 60.502(e), loadings of liquid product into gasoline tank trucks shall be limited to vapor tight gasoline trucks.
3. Compliance with the limiting standards referenced in Specific Condition No. 2 shall be conducted within 60 days of completion and initial operation, and annually thereafter. The compliance testing and reporting shall be in accordance with the requirements of F.A.C. Rule 17-2.700; 40 CFR 60, Subpart XX; 40 CFR 60, Appendix A; or other methods approved by the Department.
- a. The mass emission limitation of 35 mg/lit shall be assumed by the Department if Specific Conditions 2(b), 2(c), 2(d), and 2(f) are met while achieving at least 98 percent reduction of VOC emissions. The Department may require a stack test any time it deems necessary to verify the VOC mass emission limitation.
  - b. EPA Method 22 shall be used to determine compliance with the visible emission limitation of Specific Condition No. 3.
  - c. The  $V_{max}$  contained in Specific Condition 2(c) shall be determined according to 40 CFR 60.18(f)(4) and (f)(5), respectively.
  - d. The net heating value of the gas being combusted in the flare specified in Specific Condition 2(d) shall be determined according to 40 CFR 60.18(f)(3).

PERMITTEE: Permit Number: AC 48-188406  
Central Florida Pipeline Corp. Expiration Date: June 30, 1992

SPECIFIC CONDITIONS:

- e. The vapor tightness limitation contained in Specific Condition No. 2(f) shall be determined using EPA Method 21.
  - f. At least two startups and shutdowns of the vapor processor shall occur during the visible emissions test. If this does not occur under automatically controlled operation, the system shall be manually controlled.
  - g. The volume of gasoline dispensed during the visible emissions test shall be determined at all loading stations whose vapor emissions are controlled by the processing system. Proper record keeping shall be maintained on all types of gasoline dispensed from this source on a daily basis.
4. Pursuant to 40 CFR 60.502(g), the permittee shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck. This shall include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.
5. Pursuant to 40 CFR 60.502(h), the vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR 60.503(b).
6. Pursuant to 40 CFR 60.502(i), no pressure-vacuum vent in the vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).
7. Pursuant to 40 CFR 60.502(j), each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.
8. This facility shall operate without objectionable odors.
9. All applicable rules of the Department, including design discharge limitations specified in the application, shall be

PERMITTEE:

Central Florida Pipeline Corp.

Permit Number: AC 48-188406

Expiration Date: June 30, 1992

**SPECIFIC CONDITIONS:**

adhered to. The applicant shall also meet the requirements of 40 CFR 60.18 and F.A.C. Chapters 17-2 and 17-4.

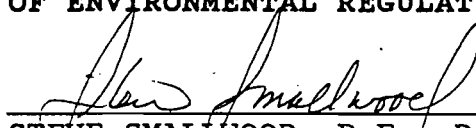
10. The Central District shall be notified at least 15 days in advance of the compliance tests so that they may be witnessed.

11. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

12. An application for an operation permit must be submitted to the Central District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this 7<sup>th</sup> day  
of June, 1991

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
\_\_\_\_\_  
STEVE SMALLWOOD, P.E., Director  
Division of Air Resources Mgmt.





State of Florida  
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

# Interoffice Memorandum

TO: Steve Smallwood  
FROM: Clair Fancy *CF*  
DATE: May 24, 1991  
SUBJ: Approval of Construction Permit AC 48-188406  
Central Florida Pipeline

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for the above mentioned company to construct a flare system.

No comments were received during the public notice period.

I recommend your approval and signature.

CF/MB/plm

Attachments

*CF*  
*ok*  
*[Signature]*  
*06-2-91*



RECEIVED

MAY 1 - 1991

DER-BAQM

CENTRAL FLORIDA PIPELINE CORPORATION  
subsidiary of  
GATX TERMINALS CORPORATION

1904 Hemlock Avenue  
Tampa, FL 33605  
813-248-8361  
Telecopier: 813-247-2476

April 30, 1991

Mr. C. H. Fancy  
Bureau Chief of Air Section  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

RE: Central Florida Pipeline Corporation  
AC48-188406  
Installation of John Zink Flare Unit  
Notice of Intent to Issue

Dear Mr. Fancy:

In accordance with the requirements set forth in Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., Central Florida Pipeline Corporation (CFPL) herewith submits proof of publication of the Notice of Intent to issue construction permits for a John Zink Flare Unit at its Taft, Florida terminal.

This notice was published in the April 17, 1991 issue of the Orlando Sentinel. CFPL received proof of publication in a timely manner, however, the proof was attached to the newspaper's invoice and inadvertently sent to the wrong department. CFPL regrets any inconvenience this may have caused.

Sincerely,  
CENTRAL FLORIDA PIPELINE CORPORATION

Caren I. Lennie  
Environmental Coordinator

CIL/th  
dergatx3

cc: C. Collins, Central District  
*m. Baig*

# The Orlando Sentinel

Published Daily  
Orlando, Orange County, Florida

State of Florida ) ss.  
COUNTY OF ORANGE

GATX APR 24 1991

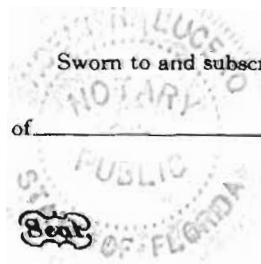
ADVERTISING CHARGE \$188.24

Before the undersigned authority personally appeared \_\_\_\_\_  
Juanita Rosado \_\_\_\_\_, who on oath says that  
she is the Legal Advertising Representative of the Orlando Sentinel, a Daily newspaper  
published at Orlando, in Orange County, Florida; that the attached copy of ad-  
vertisement, being a notice of intent \_\_\_\_\_ in the matter of  
Permit No. AC 48-188406 \_\_\_\_\_  
\_\_\_\_\_ in the \_\_\_\_\_ Court,  
was published in said newspaper in the issues of \_\_\_\_\_  
April 17, 1991 \_\_\_\_\_

Affiant further says that the said Orlando Sentinel is a newspaper published at Orlando, in said Orange County, Florida, and that the said newspaper has heretofore been continuously published in said Orange County, Florida, each Week Day and has been entered as second-class mail matter at the post office in Orlando, in said Orange County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

*Juanita Rosado*  
\_\_\_\_\_

Sworn to and subscribed before me this \_\_\_\_\_ 17th \_\_\_\_\_ day  
of \_\_\_\_\_ April \_\_\_\_\_ 91  
A.D., 19 \_\_\_\_\_



*Armen R. Lucew*  
\_\_\_\_\_

Notary Public, State of Florida at Large  
Notary Public  
My Commission Expires August 28, 1994  
Bonded Thru Brown & Brown, Inc.  
FORM NO. AD-262

**State of Florida  
Department of  
Environmental Regulation  
Notice of Intent to Issue**  
The Department of Environmental Regulation gives notice of its intent to issue a permit to Central Florida Pipeline Corporation, 100 GATX Drive, Tampa, Florida 33605 to install a John Zink Model GV-LH-8400-2 flare to control VOC emissions being emitted during gasoline and diesel tank truck loading operations from existing loading racks TN6 and C4. Currently the VOC emissions from these racks are being controlled by a carbon adsorption vapor recovery unit. The maximum throughput from these loading racks is not to exceed 128,000 gallons per hour and 12,000,000 barrels per year. This gasoline bulk terminal is located at 9919 Palm Avenue, Taft, Orange County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.  
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 fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) pursuant to 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.

P 407 852 656

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL

(See Reverse)

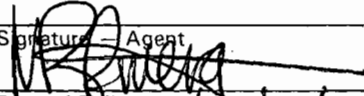
U.S.G.P.O. 1989-234-555

PS Form 3800, June 1985

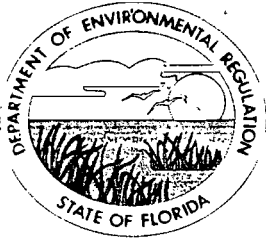
Send to <b>Tom Rigg</b>	
Street and No. <b>Central FL Pipeline</b>	
P.O., State and ZIP Code <b>Tampa FL</b>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	<b>4-3-91</b> <b>AC 48-188406</b>

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

3. Article Addressed to: <b>Mr. Tom Rigg Manager of Fla. Operations Central Fla. Pipeline 100 GATX Dr. Tampa, FL 33605</b>	4. Article Number <b>P 407 852 656</b>
	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
5. Signature - Addressee <b>X</b>	Always obtain signature of addressee or agent and <b>DATE DELIVERED</b> .
6. Signature - Agent <b>X</b> 	8. Addressee's Address (ONLY if requested and fee paid)
7. Date of Delivery <b>4/5/91</b>	

File Copy



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 3, 1991

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Tom Rigg  
Manager of Florida Operations  
Central Florida Pipeline Corporation  
100 GATX Drive  
Tampa, Florida 33605

Dear Mr. Rigg:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed construction permit to route vapors from the existing loading racks (T6 and C4) to a John Zink flare. This facility is located at 9919 Palm Avenue, Taft, Orange County, Florida.

Please publish the attached "Notice of Intent to Issue" in the legal ad section of a newspaper of general circulation in the area affected and submit the proof of publication to the Department within seven days of publication, along with any written comments you wish to have considered concerning the Department's proposed action, to Mr. Barry Andrews of the Bureau of Air Regulation.

Sincerely,

*fr*

C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/MB/plm

Attachments

- c: C. Collins, Central Dist.
- S. L. Strehler, P.E.
- D. Nester, Orange Co. EPD

Ready }  
Mirza } 4-3-91 *RM*

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of  
Application for Permit by:

Central Florida Pipeline Corp.  
100 GATX Drive  
Tampa, Florida 33605

DER File No. AC 48-188406

---

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue an air construction permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Central Florida Pipeline Corporation, applied on October 10, 1990, to the Department of Environmental Regulation for a permit to route vapors from the existing loading racks (T6 and C4) to a John Zink flare. The maximum throughputs from this source shall not exceed 128,000 gal/hr and 12,000,000 bbl/year of unleaded gasoline and diesel fuel. Currently vapor emissions from these racks are being controlled by a carbon adsorption unit. This is an existing facility located at 9919 Palm Avenue, Taft, Orange County, Florida.

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

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue 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 the address specified within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the 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 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 notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application(s) have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and

be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

*Barry D. Fancy*

*fr*  
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

Copies furnished to:

C. Collins, Central Dist.  
S. L. Strehler, P.E.  
D. Nester, Orange Co. EPD

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 4-3-91.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to §120.52(9), Florida Statute, with the designated Department Clerk, receipt of which is hereby acknowledged.

*Kim Ober*  
Clerk

4-3-91  
Date



State of Florida  
Department of Environmental Regulation  
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Central Florida Pipeline Corporation, 100 GATX Drive, Tampa, Florida 33605 to install a John Zink Model GV-LH-8400-2 flare to control VOC emissions being emitted during gasoline and diesel tank truck loading operations from existing loading racks TN6 and C4. Currently the VOC emissions from these racks are being controlled by a carbon adsorption vapor recovery unit. The maximum throughput from these loading racks is not to exceed 128,000 gallons per hour and 12,000,000 barrels per year. This gasoline bulk terminal is located at 9919 Palm Avenue, Taft, Orange County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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 fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, 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, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

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

Department of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Department of Environmental Regulation  
Central District  
3319 Maguire Blvd., Suite 232  
Orlando, Florida 32803-3767

Orange County Environmental Protection  
Department  
2002 E. Michigan Avenue  
Orlando, Florida 32806

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

Technical Evaluation  
and  
Preliminary Determination

Central Florida Pipeline Corporation  
Taft, Orange County, Florida

Bulk Gasoline Terminal - John Zink Flare  
Loading Racks TN6 and C4  
Permit Number: AC 48-188406

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

April 3, 1991

## I. Application

### A. Applicant

Central Florida Pipeline Corporation  
100 GATX Drive  
Tampa, Florida 33605

### B. Project and Location

Central Florida Pipeline Corporation is proposing to route the vapors from existing loading racks TN6 and C4 to a John Zink Flare. Currently the vapors from these loading racks are controlled by a vapor recovery unit. This facility is located at 9919 Palm Avenue, Taft, Orange County, Florida. The UTM coordinates are Zone 17, 463.8 km East and 3143.8 km North.

### C. Facility Category

The SIC Code is 5171 and the SCC Code is 4-06-001-31.

Central Florida Pipeline Corporation applied for a construction permit on October 17, 1990, and was deemed complete on January 7, 1991.

## II. Project Description

Central Florida Pipeline Corporation has applied for a construction permit to install a flare for controlling VOC emissions from loading racks TN6 and C4. Currently vapors from these loading racks go to a carbon adsorption vapor recovery unit along with loading racks T1, T2 and T3. Loading rack TN6 has six gasoline and two diesel fill connections, while loading rack C4 has eight gasoline and two diesel fill connections. Vapors from these two racks will be routed to a John Zink Model GV-LH-8400-2 Flare with a maximum daily throughput of 108,800 gal/hr of unleaded gasoline and 19,200 gals/hr of diesel fuel. The maximum annual throughput for this facility (flare) will be 10,200,000 bbls of unleaded gasoline and 1,800,000 bbls of diesel fuel. The flare will operate with no visible emissions and meet the 35 mg/liter NSPS standard.

## III. Rule Applicability

Central Florida Pipeline Corporation (a subsidiary of GATX Terminals Corporation) operates a bulk gasoline terminal which is located in Taft, Orange County, an area designated as a maintenance area for the air pollutant ozone (F.A.C. Rule 17-2.460.1.(b)) and attainment for all other pollutants (F.A.C. 17-2.420).

This source is an existing major facility because the permitted emissions of VOC exceeds 100 TPY as per F.A.C. Rule 17-2.100. This source is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes and F.A.C. Chapter 17-2.

This project (flare system) will be permitted pursuant to F.A.C. Rule 17-2.520, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements. This source is subject to NSPS requirements of 40 CFR 60.18, Subpart XX.

#### IV. Source Impact Analysis

##### A. Emission Limitations

The applicant proposes a maximum throughput as follows:

Loading rack TN6 and C4 each have two loading bays; four trucks can be loaded per hour per bay with 8,000 gallons of fuel per truck. The maximum hourly loading rate will not exceed 128,000 gal/hour (108,800 gal/hr of unleaded gasoline and 19,200 gal/hr of diesel fuel) and an annual throughput of 12,000,000 bbl total (10,200,000 bbl of unleaded gasoline and 1,800,000 bbl of diesel fuel).

According to Subpart XX (40 CFR 60) and F.A.C. Rule 17-2.660, the VOC emissions from this source shall not exceed 35 mg/lit. The flare would also be subject to the requirements of 40 CFR 60.18 and F.A.C. Chapter 17-2.

The flare shall be operated with a flame present at all times, with no visible emissions, and no objectionable odor. Since a stack test using Method 25 or 25A cannot be conducted on open flares to measure the VOC emissions, EPA has established alternate procedures to measure the net heating value (to be greater than 300 Btu/scf) and the exit velocity (to be less than 63.2 ft/sec). During compliance testing, the following test methods are applicable: EPA Methods 2A, 18, 21 and 22.

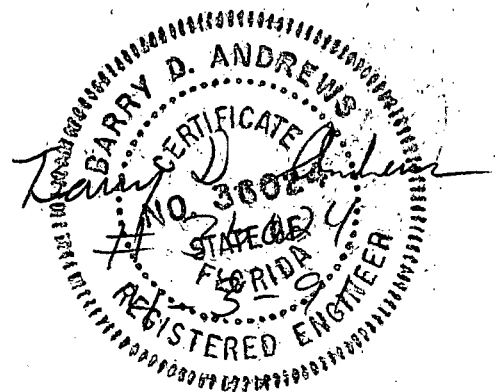
If the exit velocity and net heating value meets the above limits, as per EPA guidelines, the flare will meet at least a 97.3% destruction efficiency and thereby meet or exceed the 35 mg/liter emission standard.

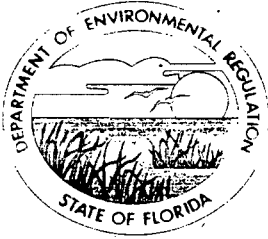
##### B. Air Quality Impacts

Based on the permitted maximum hourly throughput, the VOC emissions from this source shall not exceed 31.92 lbs/hr and 62.58 TPY. From a technical review of the application, the Department has determined that the construction and operation of this source will not have a detrimental impact on Florida's ambient air quality.

V. Conclusion

Based on the information provided by Central Florida Pipeline Corporation, the Department has reasonable assurance that the proposed construction/installation of a flare to control vapors from the TN6 and C4 loading racks, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.





# Florida Department of Environmental Regulation

Twin Towers Office Bldg • 2600 Blair Stone Road • Tallahassee, Florida 32309-2100

Lawton Chiles, Governor

Carol M. Browner, Secretary

**PERMITTEE:**

Central Florida Pipeline Corp.  
100 GATX Drive  
Tampa, Florida 33605

Permit Number: AC 48-188406

Expiration Date: June 30, 1992

County: Orange

Latitude/Longitude: 28°25'19"N  
81°22'01"W

Project: Loading Racks TN6 and C4  
Controlled by a John Zink Flare

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

For the construction of vapor collection system from loading racks TN6 and C4, consisting of six unleaded gasoline and two diesel fill connections, and eight unleaded gasoline and two diesel fill connections, respectively. Each loading rack has two loading bays and each loading bay can load four trucks per hour with 8,000 gallons of fuel per truck.

VOC emissions generated during these truck loading operations are controlled by a John Zink Flare (Model GV-LH-8400-2), an air assisted open flame combustor. The flare pilot flame is fired at a maximum of 1.2 gal/hr of LPG (propane) and a heat input of 0.11 MBtu/hr.

The maximum throughput from this source shall not exceed 108,800 gal/hour of unleaded gasoline and 19,200 gal/hour of diesel and a yearly maximum of 10,200,000 bbl of unleaded gasoline and 1,800,000 bbl of diesel.

This facility is located at 9919 Palm Avenue, Taft, Orange County, Florida. The UTM coordinates are Zone 17, 463.8 km East and 3143.8 km North.

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

Attachments are listed below:

1. Application received October 17, 1990.
2. DER incompleteness letter dated November 15, 1990.
3. Applicant's partial response received January 17, 1991.
4. Applicant's final response received March 25, 1991.

PERMITTEE: Permit Number: AC 48-188406  
Central Florida Pipeline Corp. Expiration Date: June 30, 1992

**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.



PERMITTEE:

Central Florida Pipeline Corp.

Permit Number: AC 48-188406

Expiration Date: June 30, 1992

**GENERAL CONDITIONS:**

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

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

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

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

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

**PERMITTEE:**

Central Florida Pipeline Corp.

**Permit Number: AC 48-188406**

**Expiration Date: June 30, 1992**

**GENERAL CONDITIONS:**

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or 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 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. 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

**PERMITTEE:**

Central Florida Pipeline Corp.

Permit Number: AC 48-188406

Expiration Date: June 30, 1992

**GENERAL CONDITIONS:**

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.

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

**SPECIFIC CONDITIONS:**

1. This source shall be allowed to operate continuously (8,760 hrs/year).

2. Pursuant to 40 CFR 60, Subpart XX which is adopted by reference under F.A.C. Rule 17-2.660, volatile organic compounds emitting into the atmosphere from this source shall not exceed 35 mg/l of gasoline loaded. The maximum VOC emissions shall not exceed 31.92 lb/hr and 62.58 tons/year.

3. All applicable rules of the Department, including design discharge limitations specified in the application, shall be adhered to. The applicant shall also meet the requirements of 40 CFR 60.18 and F.A.C. Chapters 17-2 and 17-4.

4. Pursuant to 40 CFR 60.18(c)(3), air assisted flares shall be used only when the net heating value of the gas being combusted is 300 BTU/scf or greater. The minimum heating value according to the construction permit application is 400 Btu/scf.

**PERMITTEE:**

Central Florida Pipeline Corp.

**Permit Number: AC 48-188406**

**Expiration Date: June 30, 1992**

**SPECIFIC CONDITIONS:**

5. Pursuant to 40 CFR 60.18(c)(5), air assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ . According to the construction permit application  $V_{max}$  is 63.20 ft/sec.

6. Pursuant to 40 CFR 60.18(c)(1), flares shall be designed and operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

7. Pursuant to 40 CFR 60.502(e), loadings of liquid product into gasoline tank trucks shall be limited to vapor tight gasoline trucks. Procedures to assure vapor tightness, as stipulated under the above mentioned subpart shall be followed.

8. Pursuant to 40 CFR 60.502(g), the permittee shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.

9. Pursuant to 40 CFR 60.502(h), the vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR 60.503(b).

10. Pursuant to 40 CFR 60.502(i), no pressure-vacuum vent in the vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).

11. Pursuant to 40 CFR 60.502(j), each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

12. Compliance with the limiting standards referenced in Specific Condition Nos. 2 and 4 shall be conducted within 60 days of completion and initial operation, and annually thereafter. The minimum requirements for stack sampling facilities, source sampling

PERMITTEE:

Permit Number: AC 48-188406

Central Florida Pipeline Corp. Expiration Date: June 30, 1992

**SPECIFIC CONDITIONS:**

and reporting shall be in accordance with the requirements of F.A.C. Rule 17-2.700 and 40 CFR 60, Subpart XX, 40 CFR 60.18 and 40 CFR 60, Appendix A. The test methods and procedures as specified in Specific Condition Nos. 13-17 shall be used.

13. For the purpose of determining compliance with the mass emission limitations of Specific Condition No. 2, the following methods, referenced in 40 CFR 60, Section 60.18 shall be used:

- (a) For the determination of volume at the exhaust vent:
  - (i) Method 2B for combustion vapor processing systems.
- (b) For the determination of total organic compounds concentration at the exhaust vent, Method 18.
- (c) The time period for a performance test shall be not less than 6 hours, during which at least 300,000 liters of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.
- (d) For intermittent vapor processing systems:
  - (i) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level.
  - (ii) At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.
- (e) The volume of gasoline dispensed during the performance test period at all loading stations whose vapor emissions are controlled by the processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading station.

**PERMITTEE:**

Central Florida Pipeline Corp.

Permit Number: AC 48-188406

Expiration Date: June 30, 1992

**SPECIFIC CONDITIONS:**

14. EPA Method 22 shall be used to determine the compliance with visible emission limitation of Specific Condition No. 4. The observation period shall be at least 2 hours.

15. EPA Method 21 shall be used to determine compliance with vapor tightness limitation of Specific Condition No. 5, and for the purpose of reporting and recordkeeping system requirements, the EPA Method 27 shall be used.

16. Compliance with the net heating value of the gas being combusted in the flare specified in Specific Condition No. 4 shall be determined according to 40 CFR 60.18(f)(3).

17. The actual velocity and the  $V_{max}$  contained in Specific Condition No. 5 shall be determined according to 40 CFR 60.18(f)(4) and (f)(5), respectively.

18. This facility shall operate without objectionable odors.

19. Flares shall be operated with a flame present at all times when VOCs are being emitted from the unit. The presence of a flare pilot flame shall be monitored and recorded using a thermocouple or any other equivalent device to detect the presence of a flame.

20. Orange County Environmental Protection Department and the Central District shall be notified at least 15 days in advance of the compliance tests so that they may be witnessed.

21. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

22. An application for an operation permit must be submitted to the Central District office and Orange County Environmental Protection Department at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any

PERMITTEE: Permit Number: AC 48-188406  
Central Florida Pipeline Corp. Expiration Date: June 30, 1992

**SPECIFIC CONDITIONS:**

deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this \_\_\_\_\_ day  
of \_\_\_\_\_, 1991

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

---

STEVE SMALLWOOD, P.E., Director  
Division of Air Resources  
Management

Attachments Available Upon Request



**GATX**CENTRAL FLORIDA PIPELINE CORPORATION  
subsidiary of  
GATX TERMINALS CORPORATION1904 Hemlock Avenue  
Tampa, FL 33605  
813-248-8361  
Telecopier: 813-247-2476

March 22, 1991

CERTIFIED MAIL  
RETURN RECEIPT REQUESTEDMr. C. H. Fancy, P.E.  
Bureau Chief of Air Section  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400**RECEIVED**

MAR 25 1991

Re: Central Florida Pipeline Corporation  
Modification to Existing Air Pollution Source  
TN6 and C4 Flare (AC48-188406)

DER-BAQM

Dear Mr. Fancy:

Central Florida Pipeline Corporation (CFPL), a subsidiary of GATX Terminals Corporation (GATX), as requested by Mirza Baig per telephone conversation on March 19, 1991, is herewith submitting additional attachments in support of GATX's response letter for request of additional information dated December 31, 1990.

The attachments are relative to the compliance test method GATX proposes to use for the proposed installation of a flare unit at the Taft facility, Orange County, Florida.

Please reference the Department's request for additional information letter dated November 15, 1990, specifically Question 8:

8. To meet the 35 mg/l VOC emission standard, the flare should be enclosed so that appropriate compliance testing can be conducted. Please submit a stack drawing showing sampling locations.

Response: EPA has established an alternative performance standard for flares to ensure compliance with the 35 mg/l standard. The flare testing procedure is contained in 40 CFR 60.18 (copy attached). This alternative method was developed to avoid having to stack test flares using conventional stack testing techniques. Under this method all measurement/samples are taken upstream of the burner prior to combustion. Therefore, enclosure of the flame is not necessary. See Attachment IV for an example of the proposed alternative method. This procedure has been approved and has been used for compliance testing of the flare at our Tampa facility.

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FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE

AIRBILL PACKAGE TRACKING NUMBER

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RECIPIENT'S COPY

From (Your Name) Please Print <b>Carla Jannie</b>		Your Phone Number (Very Important) <b>(813) 249-2148</b>	To (Recipient's Name) Please Print <b>CH Family</b>		Recipient's Phone Number (Very Important)
Company <b>GATX TERMINALS CORP</b>		Department/Floor No.	Company <b>FDC - Tower Towers Bldg</b>		Department/Floor No.
Street Address <b>100 GATX DR</b>			Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) <b>2000 Blair Station Rd</b>		
City <b>TAMPA</b>	State <b>FL</b>	ZIP Required <b>33605</b>	City <b>Tallahassee</b>	State <b>FL</b>	ZIP Required <b>32304</b>
YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.)			IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address City State ZIP Required		
PAYMENT <input checked="" type="checkbox"/> Bill Sender <input type="checkbox"/> Bill Recipient's FedEx Acct. No. <input type="checkbox"/> Bill 3rd Party FedEx Acct. <input type="checkbox"/> Credit Card <input type="checkbox"/> Cash/Check			City State ZIP Required		
SERVICES (Check only one box)		DELIVERY AND SPECIAL HANDLING (Check services required)		WEIGHT & DIMENSIONS (YOUR DECLARED VALUE)	
Priority Overnight Service (Delivery by next business morning) <input type="checkbox"/> YOUR PACKAGING 51 <input checked="" type="checkbox"/> FEDEX LETTER 56 <input type="checkbox"/> FEDEX PAK 52 <input type="checkbox"/> FEDEX BOX 53 <input type="checkbox"/> FEDEX TUBE 54 Economy Distribution Service (formerly Standard Air) (Delivery by second business day) <input type="checkbox"/> ECONOMY DIST. SVC. 80 Standard Overnight Service (Delivery by next business afternoon) <input type="checkbox"/> FEDEX LETTER 56 <input type="checkbox"/> FEDEX PAK 52 <input type="checkbox"/> FEDEX BOX 53 <input type="checkbox"/> FEDEX TUBE 54 Heavyweight Service (for Extra Large or any package over 150 lbs.) <input checked="" type="checkbox"/> HEAVYWEIGHT 70 <input type="checkbox"/> DEFERRED HEAVYWEIGHT 80	<input type="checkbox"/> HOLD FOR PICK-UP (Extra charge) <input checked="" type="checkbox"/> DELIVER WEEKDAY <input type="checkbox"/> DELIVER SATURDAY (Extra charge) <input type="checkbox"/> DANGEROUS GOODS (Extra charge) <input type="checkbox"/> DRY ICE Lbs. <input type="checkbox"/> OTHER SPECIAL SERVICE <input type="checkbox"/> SATURDAY PICK-UP (Extra charge) <input type="checkbox"/> HOLIDAY DELIVERY (if offered) (Extra charge)	Total Total Total DIM SHIPMENT (Chargeable Weight) <input type="checkbox"/> lbs. Received At: <input type="checkbox"/> Regular Stop <input type="checkbox"/> Drop Box <input type="checkbox"/> B.S.C. <input type="checkbox"/> Station <input type="checkbox"/> On-Call Stop	STPD. No. Date <input checked="" type="checkbox"/> Cash Received <input type="checkbox"/> Return Shipment <input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del. <input type="checkbox"/> Chg. To Hold Street Address City State Zip Received By Date/Time Received FedEx Employee Number	Federal Express Use Base Charges Declared Value Charge Other 1 Other 2 Total Charges REVISION DATE 4/90 PART #119501 NCREC 7/90 FORMAT #027 1990 F.E.C. PRINTED IN U.S.A.	

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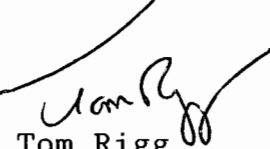
027

Mr. C. H. Fancy  
Mar. 22, 1991  
Page 2

CFPL herewith provides a copy of Method 2A (Appendix A), as well as the Specific Conditions for the flare unit (FDER Permit No. AC29-128572) at the Tampa facility and copies of the compliance test results performed on the Tampa flare unit in accordance with to the permit specific conditions.

I trust this additional information completes CFPL's construction permit application. Please contact me at (813) 248-2148 with any questions or concerns.

Sincerely,  
CENTRAL FLORIDA PIPELINE CORPORATION



Tom Rigg  
Florida Operations Manager

TR:mr  
cl-6fan

c: M. Baig, FDER ✓ 3-25-91 RRm  
C. Collins, FDER Central District ✓  
D. Nester, Orange County EPD ✓

## STATIONARY SOURCES

(50) ASTM D1835-86, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§60.41b; 60.41c.

[60.17(a)(50) amended by 55 FR 37683, September 12, 1990]

(51) ASTM D3286-85, Standard Test Method for Gross Calorific Value of Coal and Coke by the Isothermal-Jacket Bomb Calorimeter, IBR approved for Appendix A to Part 60, Method 19.

(52) ASTM D4057-81, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for Appenfix A to Part 60, Method 19.

(53) ASTM D4239-85, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, IBR approved for Appendix A to Part 60, Method 19.

[60.17 (a)(54) and (55) added by 53 FR 5872, February 26, 1988]

(54) ASTM D2016-74 (Reapproved 1983), Standard Test Methods for Moisture Content of Wood \* \* \* for Appendix A, Method 28.

(55) ASTM D4442-84, Standard Test Methods for Direct Moisture Content Measurement in Wood and Wood-base Materials \* \* \* for Appendix A, Method 28.

[60.17(a)(56) - (59) added by 54 FR 34026, August 17, 1989; amended by 55 FR 40175, October 2, 1990]

(56) ASTM D129-64 (Reapproved 1978), Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved August 17, 1989 for §60.106(j)(2).

(57) ASTM D1552-83, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved August 17, 1989, for §60.106(j)(2).

(58) ASTM D2622-87, Standard Test Method for Sulfur in Petroleum Products by X-Ray Spectrometry, IBR approved August 17, 1989, for §60.106(j)(2).

(59) ASTM D1266-87, Standard Test Method for Sulfur in Petroleum Products

(Lamp Method), IBR approved August 17, 1989, for §60.106(j)(2).

(b) The following material is available for purchase from the Association of Official Analytical Chemists, 1111 North 19th Street, Suite 210, Arlington, Virginia 22209.

(1) AOAC Method 9, Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12, IBR approved January 27, 1983 for §§60.204(d)(2), 60.214(d)(2), 60.224(d)(2), 60.234(d)(2), 60.244(f)(2).

(c) The following material is available for purchase from the American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20037.

[60.17(c) introductory paragraph and (1) amended by 52 FR 11428, April 8, 1987]

(1) API Publication 2517, Evaporation Loss from External Floating Roof Tanks, Second Edition, February 1980, IBR approved January 27, 1983 for §§60.111(i), 60.111a(f), 60.111a(f)(1) and 60.116b(e)(2)(i).

(d) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), Dunwoody Park, Atlanta, Georgia 30341.

(1) TAPPI Method T624 os-68, IBR approved January 27, 1983 for §60.285(d)(4).

(e) The following material is available for purchase from the Water Pollution Control Federation (WPCF), 2626 Pennsylvania Avenue NW., Washington, D.C. 20037.

(1) Method 209A, Total Residue Dried at 103-105 °C, in *Standard Methods for the Examination of Water and Wastewater*, 15th Edition, 1980, IBR approved February 25, 1985 for §60.683(b).

(2) [Reserved]

[60.17(e) added by 50 FR 7699, February 25, 1985]

[60.17 (f) and (g) added by 53 FR 5872, February 26, 1988]

(f) The following material is available for purchase from the following address: Underwriter's Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, Illinois 60062.

(1) UL 103, Sixth Edition revised as of September 3, 1986, Standard for Chimneys, Factory-built, Residential Type and Building Heating Appliance.

(g) The following material is available for purchase from the following address: West Coast Lumber Inspection Bureau, 6980 SW. Barnes Road, Portland, Oregon 97223.

(1) West Coast Lumber Standard Grading Rules No. 16, pages 5-21 and 90 and 91, September 3, 1970, revised 1984.

(h) The ASME *Power Test Codes* 4.1, 8 August 1972, is available for purchase from the following address: The American Society of Mechanical Engineers, 22 Law Drive, Box 2350, Fairfield, New Jersey 07007-2350.

[60.17(h) added by 54 FR 51824, December 18, 1989]

**§60.18 General control device requirements.**

[60.18 added by 51 FR 2701, January 21, 1986]

(a) *Introduction.* This section contains requirements for control devices used to comply with applicable subparts of Part 60 and Part 61. The requirements are placed here for administrative convenience and only apply to facilities covered by subparts referring to this section.

(b) *Flares.* Paragraphs (c) through (f) apply to flares.

(c)(1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value

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DER - BAQM

[Sec. 60.18(c)(3)]

of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f).

(4)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in paragraph (b)(4)(ii) and (iii).

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the meth-

ods specified in paragraph (f)(4), less than the velocity,  $V_{max1}$  as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exist velocity less than the velocity,  $V_{max}$  as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

$$K = \text{Constant}, \quad 1.740 \times 10^{-7} \quad \left(\frac{1}{\text{ppm}}\right) \quad \left(\frac{\text{g mole}}{\text{scm}}\right) \quad \left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for  $\left(\frac{\text{g mole}}{\text{scm}}\right)$  is 20°C;

$C_i$  = Concentration of sample component  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 (Incorporated by reference as specified in § 60.17); and  $H_i$  = Net heat of combustion of sample component  $i$ , kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual exist velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity,  $V_{max}$ , for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8) / 31.7$$

$V_{max}$  = Maximum permitted velocity, M/sec  
28.8 = Constant

31.7 = Constant

$H_T$  = The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity,  $V_{max}$ , for air-assisted flares shall be determined by the following equation.

$$V_{max} = 8.706 + 0.7084 (H_T)$$

$V_{max}$  = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

$H_T$  = The net heating value as determined in paragraph (f)(3).

#### Subpart B—Adoption and Submittal of State Plans for Designated Facilities

##### § 60.20 Applicability.

The provisions of this subpart apply to States upon publication of a final guideline document under § 60.22(a).

##### § 60.21 Definitions.

Terms used but not defined in this subpart shall have the meaning given them in the Act and in Subpart A:

(f)(1) Reference Method 22 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

where:

$H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

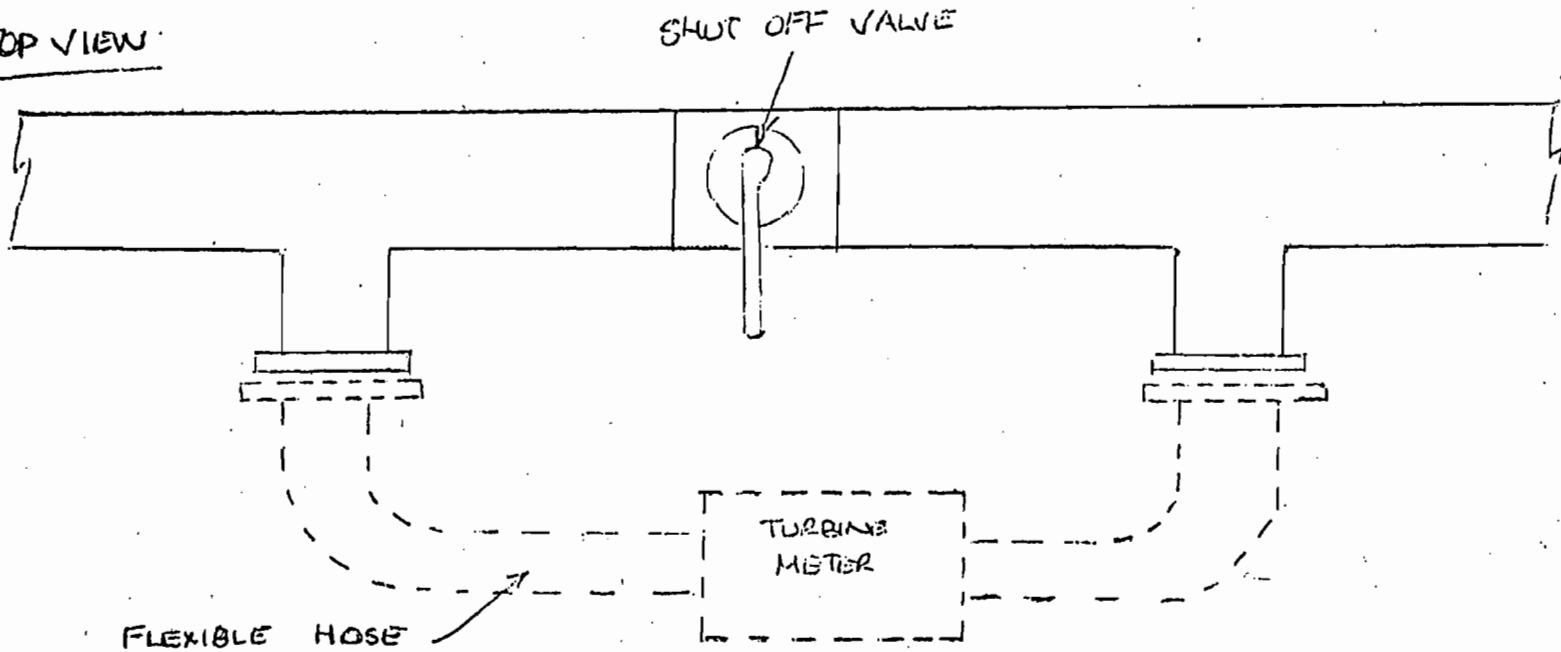
(a) "Designated pollutant" means any air pollutant, emissions of which are subject to a standard of performance for new stationary sources but for which air quality criteria have not been issued, and which is not included on a list published under section 108(a) or section 112(b)(1)(A) of the Act.

(b) "Designated facility" means any existing facility (see § 60.2(aa)) which emits a designated pollutant and which would be subject to a standard of performance for that pollutant if the existing facility were an affected facility (see § 60.2(e)).

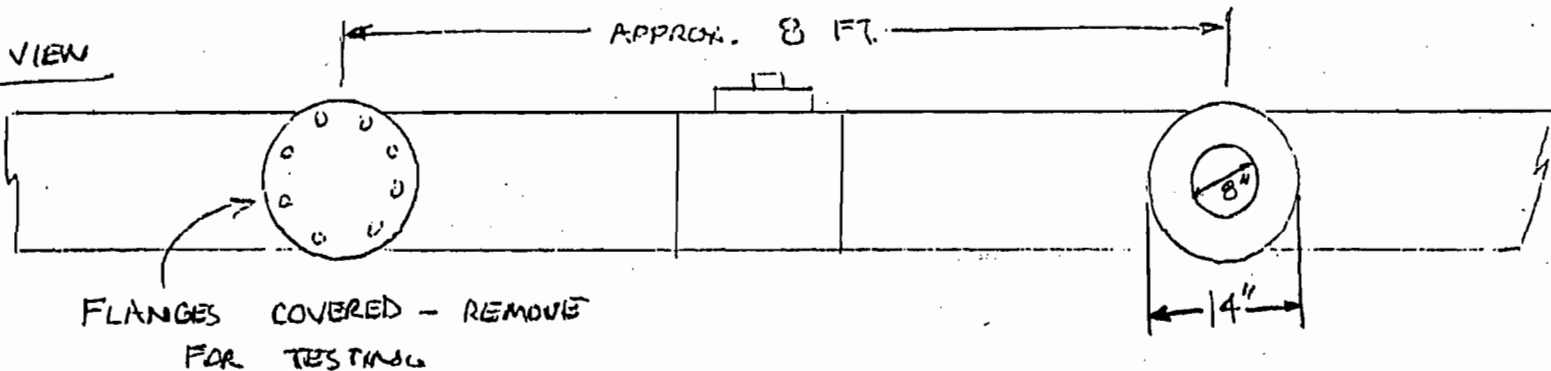
(c) "Plan" means a plan under section 111(d) of the Act which establishes emission standards for designated pollutants from designated facilities and provides for the implementation and enforcement of such emission standards.

(d) "Applicable plan" means the plan, or most recent revision thereof, which has been approved under § 60.27(b) or promulgated under § 60.27(d).

TOP VIEW



SIDE VIEW



ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

CONSULTING ENGINEERS and ENVIRONMENTAL SCIENTISTS

TURBINE METER BY-PASS SYSTEM  
FOR FLARE TESTING

1-25-88

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thermometric fixed points, e.g., ice bath and boiling water (corrected for barometric pressure) may be used. For temperatures above 405° C (761° F), use an NBS-calibrated reference thermocouple-potentiometer system or an alternate reference, subject to the approval of the Administrator.

If, during calibration, the absolute temperatures measured with the gauge being calibrated and the reference gauge agree within 1.5 percent, the temperature data taken in the field shall be considered valid. Otherwise, the pollutant emission test shall either be considered invalid or adjustments (if appropriate) of the test results shall be made, subject to the approval of the Administrator.

4.4 Barometer. Calibrate the barometer used against a mercury barometer.

5. Calculations

Carry out calculations, retaining at least one extra decimal figure beyond that of the acquired data. Round off figures after final calculation.

5.1 Nomenclature.

- A = Cross-sectional area of stack, m<sup>2</sup> (ft<sup>2</sup>).
- B<sub>ws</sub> = Water vapor in the gas stream (from Method 5 or Reference Method 4), proportion by volume.
- C<sub>p</sub> = Pitot tube coefficient, dimensionless.
- K<sub>p</sub> = Pitot tube constant,

$$34.97 \frac{m}{sec} \left[ \frac{(g/g\text{-mole})(mm Hg)}{(^{\circ}K)(mm H_2O)} \right]^{1/2}$$

for the metric system and

$$85.49 \frac{ft}{sec} \left[ \frac{(lb/lb\text{-mole})(in. Hg)}{(^{\circ}R)(in. H_2O)} \right]^{1/2}$$

for the English system.

- M<sub>w</sub> = Molecular weight of stack gas, dry basis (see Section 3.6) g/g-mole (lb/lb-mole).
- M<sub>s</sub> = Molecular weight of stack gas, wet basis, g/g-mole (lb/lb-mole).
- = M<sub>w</sub> (1 - B<sub>ws</sub>) + 18.0 B<sub>ws</sub>

Eq. 2-5

P<sub>bar</sub> = Barometric pressure at measurement site, mm Hg (in. Hg).

P<sub>s</sub> = Stack static pressure, mm Hg (in. Hg).

P<sub>t</sub> = Absolute stack gas pressure, mm Hg (in. Hg).  
= P<sub>bar</sub> + P<sub>s</sub>

Equation 2-6

P<sub>std</sub> = Standard absolute pressure, 760 mm Hg (29.92 in. Hg).

Q<sub>sd</sub> = Dry volumetric stack gas flow rate corrected to standard conditions, dscm/hr (dscf/hr).

t<sub>s</sub> = Stack temperature, °C (°F).

T<sub>s</sub> = Absolute stack temperature, °K. (°R).  
= 273 + t<sub>s</sub> for metric

Equation 2-7

= 460 + t<sub>s</sub> for English

Equation 2-8

T<sub>std</sub> = Standard absolute temperature, 293 °K (528° R)

v<sub>s</sub> = Average stack gas velocity, m/sec (ft/sec).

Δp = Velocity head of stack gas, mm H<sub>2</sub>O (in. H<sub>2</sub>O).

3,600 = Conversion factor, sec/hr.

18.0 = Molecular weight of water, g/g-mole (lb/lb-mole).

5.2 Average stack gas velocity.

$$v_s = K_p C_p (\sqrt{\Delta p})^{0.85} \sqrt{\frac{T_{std}}{P_s M_s}}$$

Equation 2-9

5.3 Average stack gas dry volumetric flow rate.

$$Q_{sd} = 3,600(1 - B_{ws})v_s A \frac{T_{std}}{T_s} \frac{P_s}{P_{std}}$$

Equation 2-10

To convert Q<sub>sd</sub> from dscm/hr (dscf/hr) to dscm/min (dscf/min), divide Q<sub>sd</sub> by 60.

[5.3 amended by 52 FR 34639, September 14, 1987]

6. Bibliography

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2. Perry, J. H. Chemical Engineers' Handbook. New York, McGraw-Hill Book Co., Inc. 1960.
3. Shigehara, R. T., W. F. Todd, and W. S. Smith. Significance of Errors in Stack Sampling Measurements. U.S. Environmental Protection Agency, Research Triangle Park, N.C. (Presented at the Annual Meeting of the Air Pollution Control Association, St. Louis, Mo., June 14-19, 1970.)
4. Standard Method for Sampling Stacks for Particulate Matter. In: 1971 Book of ASTM Standards, Part 23. Philadelphia, Pa. 1971. ASTM Designation D-2928-71.
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9. Vollaro, R. F. Guidelines for Type S Pitot Tube Calibration. U.S. Environmental Protection Agency, Research Triangle Park, N.C. (Presented at 1st Annual Meeting, Source Evaluation Society, Dayton, Ohio, September 18, 1975.)
10. Vollaro, R. F. A Type S Pitot Tube Calibration Study. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park, N.C. July 1974.
11. Vollaro, R. F. The Effects of Impact Opening Misalignment on the Value of the Type S Pitot Tube Coefficient. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park, N.C. October 1976.
12. Vollaro, R. F. Establishment of a Baseline Coefficient Value for Properly Constructed Type S Pitot Tubes. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park N.C. November 1976.
13. Vollaro, R. F. An Evaluation of Single-Velocity Calibration Technique as a Means of Determining Type S Pitot Tubes Coefficient. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park N.C. August 1975.
14. Vollaro, R. F. The Use of Type S Pitot Tubes for the Measurement of Low Velocities. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park N.C. November 1976.
15. Smith, Marvin L. Velocity Calibration of EPA Type Source Sampling Probe. United Technologies Corporation, Pratt and Whitney Aircraft Division, East Hartford, Conn. 1975.
16. Vollaro, R. F. Recommended Procedure for Sample Traverses in Ducts Smaller than 12 Inches in Diameter. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park N.C. November 1976.
17. Ower, E. and R. C. Pankhurst. The Measurement of Air Flow, 4th Ed., London, Pergamon Press, 1966.
18. Vollaro, R. F. A Survey of Commercially Available Instrumentation for the Measurement of Low-Range Gas Velocities. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park N.C. November 1976. (Unpublished Paper)
19. Gnyp, A. W., C. C. St. Pierre, D. S. Smith, D. Mozzon, and J. Steiner. An Experimental Investigation of the Effect of Pitot Tube-Sampling Probe Configurations on the Magnitude of the S Type Pitot Tube Coefficient for Commercially Available Source Sampling Probes. Prepared by the University of Windsor for the Ministry of the Environment, Toronto, Canada. February 1975.

N.C. (Presented at 1st Annual Meeting, Source Evaluation Society, Dayton, Ohio, September 18, 1975.)

10. Vollaro, R. F. A Type S Pitot Tube Calibration Study. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park, N.C. July 1974.

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12. Vollaro, R. F. Establishment of a Baseline Coefficient Value for Properly Constructed Type S Pitot Tubes. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park N.C. November 1976.

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15. Smith, Marvin L. Velocity Calibration of EPA Type Source Sampling Probe. United Technologies Corporation, Pratt and Whitney Aircraft Division, East Hartford, Conn. 1975.

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17. Ower, E. and R. C. Pankhurst. The Measurement of Air Flow, 4th Ed., London, Pergamon Press, 1966.

18. Vollaro, R. F. A Survey of Commercially Available Instrumentation for the Measurement of Low-Range Gas Velocities. U.S. Environmental Protection Agency, Emission Measurement Branch, Research Triangle Park N.C. November 1976. (Unpublished Paper)

19. Gnyp, A. W., C. C. St. Pierre, D. S. Smith, D. Mozzon, and J. Steiner. An Experimental Investigation of the Effect of Pitot Tube-Sampling Probe Configurations on the Magnitude of the S Type Pitot Tube Coefficient for Commercially Available Source Sampling Probes. Prepared by the University of Windsor for the Ministry of the Environment, Toronto, Canada. February 1975.

METHOD 2A—DIRECT MEASUREMENT OF GAS VOLUME THROUGH PIPES AND SMALL DUCTS

1. Applicability and Principle.

1.1 Applicability. This method applies to the measurement of gas flow rates in pipes and small ducts, either in-line or at exhaust positions, within the temperature range of 0 to 50°C.

[Appendix A, Method 2A]

1.2 Principle. A gas volume meter is used to measure gas volume directly. Temperature and pressure measurements are made to correct the volume to standard conditions.

## 2. Apparatus.

Specifications for the apparatus are given below. Any other apparatus that has been demonstrated (subject to approval of the Administrator) to be capable of meeting the specifications will be considered acceptable.

2.1 Gas Volume Meter. A positive displacement meter, turbine meter, or other direct volume measuring device capable of measuring volume to within 2 percent. The meter shall be equipped with a temperature gauge ( $\pm 2$  percent of the minimum absolute temperature) and a pressure gauge ( $\pm 2.5$  mm Hg). The manufacturer's recommended capacity of the meter shall be sufficient for the expected maximum and minimum flow rates at the sampling conditions. Temperature, pressure, corrosive characteristics, and pipe size are factors necessary to consider in choosing a suitable gas meter.

[2.1 amended by 52 FR 34639, September 14, 1987]

2.2 Barometer. A mercury, aneroid, or other barometer capable of measuring atmospheric pressure to within 2.5 mm Hg. In many cases, the barometric reading may be obtained from a nearby national weather service station, in which case the station value (which is the absolute barometric pressure) shall be requested, and an adjustment for elevation differences between the weather station and the sampling point shall be applied at a rate of minus 2.5 mm Hg per 30-meter elevation increase, or vice-versa for elevation decrease.

2.3 Stopwatch. Capable of measurement to within 1 second.

## 3. Procedure.

3.1 Installation. As there are numerous types of pipes and small ducts that may be subject to volume measurement, it would be difficult to describe all possible installation schemes. In general, flange fittings should be used for all connections wherever possible. Gaskets or other seal materials should be used to assure leak-tight connections. The volume meter should be located so as to avoid severe vibrations and other factors that may affect the meter calibration.

3.2 Leak Test. A volume meter installed at a location under positive pressure may be leak-checked at the meter connections by using a liquid leak detector solution containing a surfactant. Apply a small amount of the solution to the connections. If a leak exists, bubbles will form, and the leak must be corrected.

A volume meter installed at a location under negative pressure is very difficult to test for leaks without blocking flow at the inlet of the line and watching for meter movement. If this procedure is not possible, visually check all connections and assure tight seals.

## 3.3 Volume Measurement.

3.3.1 For sources with continuous, steady emission flow rates, record the initial meter volume reading, meter temperature(s), meter pressure, and start the stopwatch. Throughout the test period, record the meter temperature(s) and pressure so that average values can be determined. At the end of the test, stop the timer and record the elapsed time, the final volume reading, meter temperature(s), and pressure. Record the barometric pressure at the beginning and end of the test run. Record the data on a table similar to Figure 2A-1.

[Appendix A, Method 2A]





3.3.2 For sources with noncontinuous, non-steady emission flow rates, use the procedure in 3.3.1 with the addition of the following: Record all the meter parameters and the start and stop times corresponding to each process cyclical or noncontinuous event.

#### 4. Calibration.

4.1 Volume Meter. The volume meter is calibrated against a standard reference meter prior to its initial use in the field. The reference meter is a spirometer or liquid displacement meter with a capacity consistent with that of the test meter.

Alternatively, a calibrated, standard pitot may be used as the reference meter in conjunction with a wind tunnel assembly.

Attach the test meter to the wind tunnel so that the total flow passes through the test meter. For each calibration run, conduct a 4-point traverse along one stack diameter at a position at least eight diameters of straight tunnel downstream and two diameters upstream of any bend, inlet, or air mover. Determine the traverse point locations as specified in Method 1. Calculate the reference volume using the velocity values following the procedure in Method 2, the wind tunnel cross-sectional area, and the run time.

[4.1 amended by 55 FR 47472, November 14, 1990]

Set up the test meter in a configuration similar to that used in the field installation (i.e., in relation to the flow moving device). Connect the temperature and pressure gauges as they are to be used in the field. Connect the reference meter at the inlet of the flow line, if appropriate for the meter, and begin gas flow through the system to condition the meters. During this conditioning operation, check the system for leaks.

The calibration shall be run over at least three different flow rates. The calibration flow rates shall be about 0.3, 0.6, and 0.9 times the test meter's rated maximum flow rate.

For each calibration run, the data to be collected include: reference meter initial and final volume readings, the test meter initial and final volume reading, meter average temperature and pressure, barometric pressure, and run time. Repeat the runs at each flow rate at least three times.

Calculate the test meter calibration coefficient,  $Y_m$ , for each run as follows:

$$Y_m = \frac{(V_r - V_i)(t_r + 273)}{(V_m - V_i)(t_m + 273)} \frac{P_b}{(P_b + P_s)}$$

Eq. 2A-1

Where:

$Y_m$  = Test volume meter calibration coefficient, dimensionless.

$V_r$  = Reference meter volume reading,  $m^3$ .

$V_m$  = Test meter volume reading,  $m^3$ .

$t_r$  = Reference meter average temperature, °C.

$t_m$  = Test meter average temperature, °C.

$P_b$  = Barometric pressure, mm Hg.

$P_s$  = Test meter average static pressure, mm Hg.

$f$  = Final reading for run.

$i$  = Initial reading for run.

Compare the three  $Y_m$  values at each of the flow rates tested and determine the maximum and minimum values. The difference between the maximum and minimum values at each flow rate should be no greater than 0.030. Extra runs may be required to complete this requirement. If this specification cannot be met in six successive runs, the test meter is not suitable for use. In addition, the meter coefficients should be between 0.95 and 1.05. If these specifications are met at all the flow rates, average all the  $Y_m$  values from runs meeting the specifications to obtain an average meter calibration coefficient,  $Y_m$ .

The procedure above shall be performed at least once for each volume meter. Thereafter, an abbreviated calibration check shall be completed following each field test. The calibration of the volume meter shall be checked by performing three calibration runs at a single, intermediate flow rate (based on the previous field test) with the meter pressure set at the average value encountered in the field test. Calculate the average value of the calibration factor. If the calibration has changed by more than 5 percent, recalibrate the meter over the full range of flow as described above.

NOTE.—If the volume meter calibration coefficient values obtained before and after a test series differ by more than 5 percent, the test series shall either be voided, or calculations for the test series shall be performed using whichever meter coefficient value (i.e., before or after) gives the greater value of pollutant emission rate.

4.2 Temperature Gauge. After each test series, check the temperature gauge at ambient temperature. Use an American Society for Testing and Materials (ASTM) mercury-in-glass reference thermometer, or equivalent, as a reference. If the gauge being checked agrees within 2 percent (absolute temperature) of the reference, the temperature data collected in the field shall be considered valid. Otherwise, the test data shall be considered invalid or adjustments of the test results shall be made, subject to the approval of the Administrator.

4.3 Barometer. Calibrate the barometer used against a mercury barometer prior to the field test.

#### 5. Calculations.

Carry out the calculations, retaining at least one extra decimal figure beyond that of the acquired data. Round off figures after the final calculation.

##### 5.1 Nomenclature

$P_b$  = Barometric pressure, mm Hg.

$P_s$  = Average static pressure in volume meter, mm Hg.

$Q_s$  = Gas flow rate,  $m^3/min$ , standard conditions.

$T_m$  = Average absolute meter temperature, °K.

$V_m$  = Meter volume reading,  $m^3$ .

$Y_m$  = Average meter calibration coefficient, dimensionless.

$f$  = Final reading for test period.

$i$  = Initial reading for test period.

$s$  = Standard conditions, 20° C and 760 mm Hg.

$\Theta$  = Elapsed test period time, min.

#### 5.2 Volume.

$$V_m = 0.3853 Y_m (V_{mf} - V_{mi}) \frac{(P_b + P_s)}{T_m}$$

Eq. 2A-2

#### 5.3 Gas Flow Rate.

$$Q_s = \frac{V_m}{\Theta} \quad \text{Eq. 2A-3}$$

## 6. Bibliography.

[Redesignates 6.1-6.3 as 1.-3. by 47472, November 14, 1990]

1. Rom, Jerome J. Maintenance, Calibration, and Operation of Isokinetic Source Sampling Equipment. U.S. Environmental Protection Agency. Research Triangle Park, N.C. Publication No. APTD-0576. March 1972.

2. Wortman, Martin, R. Vollaro, and P.R. Westlin. Dry Gas Volume Meter Calibrations. Source Evaluation Society Newsletter. Vol. 2, No. 2. May 1977.

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## METHOD 2B—DETERMINATION OF EXHAUST GAS VOLUME FLOW RATE FROM GASOLINE VAPOR INCINERATORS

### 1. Applicability and principle

1.1 Applicability. This method applies to the measurement of exhaust volume flow rate from incinerators that process gasoline vapors consisting primarily of alkanes, alkenes, and/or arenes (aromatic hydrocarbons). It is assumed that the amount of auxiliary fuel is negligible.

1.2 Principle. The incinerator exhaust flow rate is determined by carbon balance. Organic carbon concentration and volume flow rate are measured at the incinerator inlet. Organic carbon, carbon dioxide ( $CO_2$ ), and carbon monoxide (CO) concentrations are measured at the outlet. Then the ratio of total carbon at the incinerator inlet and outlet is multiplied by the inlet volume to determine the exhaust volume and volume flow rate.

### 2. Apparatus.

2.1 Volume Meter. Equipment described in Method 2A.

2.2 Organic Analyzers (2). Equipment described in Method 25A or 25B.

2.3 CO Analyzer. Equipment described in Method 10.

[Appendix A, Method 2B]

PERMITTEE:  
GATX Terminals  
Corporation

PERMIT/CERTIFICATION NO.: AO29-128572  
PROJECT: Three Trucks and One Railcar  
Loading Stations

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.
2. Pursuant to 40 CFR 60, Subpart XX which is adopted by reference under Section 17-2.660, F.A.C., volatile organic compounds emitting into the atmosphere from T/T No. 1 shall not exceed 35 mg./L of gasoline loaded.
3. Pursuant to 40 CFR 60.502(e), loadings of liquid product into gasoline tank trucks shall be limited to vapor tight gasoline trucks. Procedures to assure vapor tightness, as stipulated under the above mentioned subpart shall be followed.
4. Pursuant to 40 CFR 60.502(g), the permittee shall act to assure that the terminals' and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.
5. Pursuant to 40 CFR 60.502(h), the vapor collection and liquid loading equipment shall be operated to prevent gauge pressure in the delivery tank from exceed 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR 60.503(b).
6. Pursuant to 40 CFR 60.502(i), no pressure-vacuum vent in the vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).
7. Pursuant to 40 CFR 60.502(j), each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.
8. Compliance with the Limiting Standard for Volatile Organic Compound (VOC) emissions from this facility, referenced in Specific Conditions No. 2 through No. 7, shall be determined in accordance with the requirements of Section 17-2.700, F.A.C., 40 CFR 60, Subpart XX, 40 CFR 60, Section 60.18, and 40 CFR 60, Appendix A. The minimum requirements for source sampling and reporting and recordkeeping shall be in accordance with Section 17-2.700, F.A.C., and 40 CFR 60, Appendix A as follows:

PERMITTEE:  
GATX Terminals  
Corporation

PERMIT/CERTIFICATION NO.: A029-128572  
PROJECT: Three Trucks and One Railcar  
Loading Stations

SPECIFIC CONDITIONS: (continued)

A. For the purpose of determining compliance with Specific Condition No. 5, the following procedure shall be used:

- (1) Calibrate and install a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with +2.5 mm of water precision.
- (2) Connect the pressure measurement device to a pressure tap in the terminals' vapor collection system, located as close as possible to the connection with the gasoline tank truck.
- (3) During the performance test, record the pressure every 5 minutes while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position must be tested at least once during the performance test.

B. For the purpose of determining compliance with the mass emission limitations of Specific Condition No. 2, the following methods, referenced in 40 CFR 60, Section 60.18, shall be used:

- (1) For the determination of volume at the exhaust vent:  
*NO* (i) Method 2B for ~~combustion-vapor processing~~ <sup>vapor incinerators</sup> systems.  
*YES* (ii) Method 2A for all other vapor processing systems.
- (2) For the determination of total organic compounds concentration at the exhaust vent, Methods 18 and 22.

C. Pursuant to 40 CFR 60, Section 60.503(d), immediately prior to a performance test required for determination of compliance with the preceding Specific Condition No. 8, Section A and B, all potential source of vapor leakage in the terminals' vapor collection system equipment shall be monitored for leaks using Method 21. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 ppmv or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.

D. The test procedure for determination of compliance with Specific Condition No. 2 shall comply with the following:

- (1) All testing equipment shall be prepared and installed as specified in the appropriate test methods.
- (2) The time period for a performance test shall be not less than 6 hours, during which at least 300,000 liters of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.

PERMITTEE:  
GATX Terminals  
Corporation

PERMIT/CERTIFICATION NO.: AO29-128572  
PROJECT: Three Trucks and One Railcar  
Loading Stations

SPECIFIC CONDITIONS: (continued)

- (3) For intermittent vapor processing systems:
  - (i) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level.
  - (ii) At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.
- (4) The volume of gasoline dispensed during the performance test period at all loading stations whose vapor emissions are controlled by the processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading station.

RECEIVED

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VOC EMISSIONS TEST REPORT  
BULK GASOLINE TERMINAL  
GATX TERMINALS CORPORATION  
TAMPA, FLORIDA  
AUGUST 23, 1990

Prepared For:

GATX TERMINALS CORPORATION  
100 GATX DRIVE  
TAMPA, FLORIDA 33619

Prepared By:

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.  
5119 NORTH FLORIDA AVENUE  
TAMPA, FLORIDA 33603

SEPTEMBER 17, 1990

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## I. SUMMARY

On August 23, 1990 Environmental Engineering Consultants, Inc. performed the annual compliance test on the truck loading rack at GATX Terminals Corporation's Tampa facility. VOC emissions were controlled by a John Zink Company Model GV-LH-8400-2 open flame flare unit.

The test was conducted by Carl Fink, Byron Burrows, and John Wallace of Environmental Engineering Consultants, Inc. with the assistance and cooperation of the employees of GATX Terminals Corporation.

A summary of the test results is shown in Table 1. The average heating value for the gas burned was 700 BTU/scf.

The maximum 5 minute average velocity at the flare tip was 9.7 ft/sec. which was less than the maximum allowable velocity of 89.4 ft/sec.

A two hour visible emissions test was performed using EPA Method 22 procedures. No emissions were observed.

The vapor collection system pressure, measured at the truck rack vapor recovery line, was less than 18 inches of water for all trucks loaded during the test. The maximum pressure recorded was 11 inches of water.

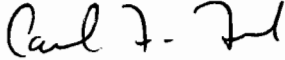
All emission rates were determined according to the procedures prescribed by the Florida Department of Environmental Regulation and the tested source was found to be in compliance with applicable emissions standards.



I hereby certify that these results are true and correct and were obtained by the procedures and methods described herein.

Respectfully Submitted;

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.



Carl F. Fink  
Senior Environmental Engineer

TABLE 1  
VAPOR FLARE RESULTS

PLANT: GATX TERMINALS INC. DATE: AUGUST 23, 1990  
TAMPA TERMINAL

---

AVERAGE HEAT VALUE (HT) (BTU/SCF)	MAXIMUM ALLOWABLE ORIFICE VELOCITY (ft/sec)*	MAXIMUM ORIFICE VELOCITY (ft/sec)**
700	89.4	9.7

---

\*  $V_{max} = 28.75 + 0.0867 (HT)$

From EPA Guidance: Use of Flares at Bulk Gasoline Terminals,  
June 21, 1985.

\*\* Based on data recorded at 5 minute intervals of test.

TABLE 2  
TEST SUMMATION  
VAPOR FLARE

PLANT: GATX TERMINALS INC.

DATE: AUGUST 23, 1990

Average Barometric Pressure;	30.03 in.Hg
Average Meter Temperature;	30.7 C
Average Static Pressure:	3.9 in.H2O
Total Volume Exhausted @ 20 C 29.92 in. Hg:	27643 cu. ft.
Total Gasoline Dispensed	156936 gallons
Total Product Dispensed	224996 gallons
Average Heat Value:	700 BTU/scf
Maximum Allowable Orifice Velocity:	89.4 ft/sec
Maximum Orifice Velocity:	9.7 ft/sec

TABLE 3  
TEST SUMMATION  
LEAK CHECKS AT LOADING RACKS

PLANT: GATX TERMINALS INC.  
TAMPA TERMINAL

DATE: AUGUST 23, 1990

Loading Positions	5
Total Trucks Checked	22
No. with Leaks	5
No. with no Leaks	17

## II. SOURCE DESCRIPTION

GATX Terminals Corporation's Tampa facility, which is located on Hooker's Point in Tampa, is comprised of both petroleum liquid storage and a bulk gasoline terminal. The terminal has four (4) loading positions (one pumping jet fuel only) each equipped with a vapor recovery line. During loading of the trucks, which are submerged filled using the bottom loading method, the displaced vapors are routed to a surge tank and then to the vapor flare.

The vapor flare manufactured by the John Zink Company, is an air-assisted type with a two stage burner unit. Vapors from the loading racks pass through a hydraulic seal and a flame arrestor prior to the combustion area. The burner automatically switches to the dual stage mode with a greater orifice area when the delivery line back pressure exceeds a pre-set value.

An automatic pilot light fueled by propane is monitored ensuring that loading during flare operation cannot be accomplished unless a flame is present.

### III. METHODS AND PROCEDURES

The sampling and analytical procedures used for determining compliance are those prescribed by the Florida Department of Environmental Regulation. The specific procedures are described in 40 CFR 60.503 and an EPA Guidance titled "Use of Flares at Gasoline Terminals" dated June 21, 1985. These procedures utilize EPA Methods 2A, 18 and 22. In addition, trucks being loaded were monitored for leaks using EPA Method 21.

Sampling time was at least six hours during which a minimum of 80,000 gallons of gasoline were loaded into the tank trucks. Compliance was determined using the velocity/heating value relationship described in the EPA Guidance listed above.

The velocity of vapors at the flare burner tips was determined by measuring the total vapor volume with dual six inch Rockwell turbine meters and dividing by the total orifice area as reported by the manufacturer. Temperature and static pressure measurements were made at the inlet of the meter for correction of the volume to standard conditions. Throughout the testing period, volume system measurements were recorded at five minute intervals.

Heating value of the vapor delivered to the flare was determined from integrated bag samples collected through a port at the exit of the water seal. The sample was pumped into Tedlar gas sample bags with a teflon lined diaphragm pump at a rate controlled by a stainless steel valve on an indicating flowmeter. All gas sample lines were teflon with stainless steel fittings.

Gas flowrate to the flare was monitored using a standard pitot tube placed in the inlet of the turbine meters and attached to a magnehelic. Sample flowrate was adjusted to be proportional with the gas flowrate to the flare.

The heating value of the collected gas samples was determined using EPA Method 18 procedures by Pace Laboratories in Tampa, Florida under the direction of Dr. James O'Neal. The results were reported as BTU/scf.

For each five minute interval the standard volume calculated was divided by the total flare orifice area to obtain average velocities for each interval. The maximum permitted velocities were calculated from the heating value results using the EPA Alternate Criteria Method and compared to the actual maximum velocity to determine compliance.

Prior to testing the vapor flare, terminal vapor recovery lines and testing ductwork were checked for leaks with a combustible gas detector. If a leak was found, it was repaired before testing. During the test, each tank truck was tested for leaks. Dome and boot leaks, which were greater than or equal to 10,000 ppm methane, were documented on field sheets.

The combustible gas detector used to test for leaks was a Gastech Model 1238. The instrument was calibrated with zero air and 2.2% propane calibration gas and checked with 10,000 ppm methane calibration gas. Probe diameter was 1/4 inch. During testing, the probe inlet was 2.5 cm from the potential leak source and probe movement was 2.0 cm per second. If there was

any meter deflection at a potential leak source, the probe was moved to locate the point of highest meter response.



APPENDIX A

TEST DATA

TIME	VOLUME		PRESSURE " $H_2O$ "	DUCT TEMPERATURE	BAROMETRIC PRESSURE
	%(	READING #2			
0 (0700)	0	577230			30.00
5	140	577370	4.6	28.2	
10	900	578210	4.8	28.5	
15	1470	578870	7.2	28.4	
20	1800	579310	7.5	28.4	
25	1880	579350	2.5	28.3	
30	2360	579850	4.5	28.8	
35	2500	580080	6.4	28.6	
40	2850	580450	6.4	28.5	
45	2860	580460	0.0	28.9	
50	2860	580460	0.0	28.9	
55	2860	580460	0.0	29.0	
60	2860	580460	0.0	29.0	
65	3060	580690	5.0	29.1	
70	3200	580840	5.2	29.4	
75	3300	580940	5.2	29.5	
80	3520	581180	5.2	29.5	
85	3710	581400	5.1	29.5	
90	3910	581610	5.0	29.9	
95	3950	581660	0.0	30.8	
100	3950	581660	0.0	30.8	
105	3950	581660	0.0	30.6	
110	3950	581660	0.0	30.6	
115	4030	581750	4.0	31.2	
120	4210	581930	4.0	31.5	
TOTAL					
AVERAGE					

PLANT GATX

LOCATION TAMPA

DATE 8-23-90

OPERATOR(S) BURROWS/WALLACE

VOC TESTING DATA

ENVIRONMENTAL ENGINEERING  
CONSULTANTS, INC.

CONSULTING ENGINEERS,  
ENVIRONMENTAL SCIENTISTS

TIME	VOLUME READING		PRESSURE	DUCT TEMPERATURE	BAROMETRIC PRESSURE
125	4600	582350	5.0	31.5	30.03
130	5010	582800	7.8	31.5	
135	5470	583290	8.2	31.3	
140	5600	583430	6.0	31.9	
145	5770	583630	8.5	31.6	
150	6190	584070	5.0	31.9	
155	6370	584260	4.0	32.4	
160	6380	584270	0.0	34.0	
165	6530	584430	3.5	32.9	
170	6540	584440	0.0	33.6	
175	6610	584520	5.0	34.1	
180	6660	584560	2.0	35.5	
185	6710	584620	6.0	34.7	
190	7110	585060	8.0	32.5	
195	7290	585240	5.0	32.6	
200	7310	585270	1.0	33.0	
205	7480	585450	5.0	32.7	
210	7680	585670	6.0	32.8	
215	7790	585800	5.0	32.8	
220	7900	585800	0.0	32.8	
225	7990	586040	4.0	32.5	
230	8100	586130	6.0	32.8	
235	8550	586630	6.5	32.7	
240	8710	586810	5.0	33.7	
TOTAL					
AVERAGE					

PLANT <u>GATX TERMINALS (N.Y.)</u>	VOC TESTING DATA	
LOCATION <u>TAMPA, FL.</u>	ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.  CONSULTING ENGINEERS, ENVIRONMENTAL SCIENTISTS	
DATE <u>8-23-90</u>		
OPERATOR(S) <u>BURROWS/WALLACE</u>		

TIME	VOLUME READING		PRESSURE	DUCT TEMPERATURE	BAROMETRIC PRESSURE
245	9300	587470	6.4	32.2	30.05
250	9570	587710	5.5	32.3	
255	9890	588070	5.0	32.6	
260	10080	588220	5.0	32.7	
265	10220	588420	3.0	32.6	
270	10340	588550	5.0	32.4	
275	10670	588910	5.0	31.7	
280	10920	589190	6.0	31.5	
285	11250	589540	6.4	31.3	
290	11470	589790	6.2	31.4	
295	11880	590240	5.8	31.1	
300	12150	590530	5.2	31.1	
305	12740	591060	3.0	30.3	
310	12990	591340	5.0	29.8	
315	13080	591440	3.0	28.9	
320	13080	591440	0.0	28.2	
325	13080	591440	0.0	27.4	
330	13080	591440	0.0	26.9	
335	13080	591440	0.0	26.9	
340	13080	591440	0.0	26.8	
345	13080	591440	0.0	26.7	
350	13080	591440	0.0	26.7	
355	13260	591640	5.0	27.8	
360	13510	591900	3.2	27.7	
TOTAL					
AVERAGE					

PLANT <u>GATX TERMINALS INC</u>	VOC TESTING DATA	
LOCATION <u>TAMPA FL</u>	ENVIRONMENTAL ENGINEERING CONSULTANTS, INC. CONSULTING ENGINEERS, ENVIRONMENTAL SCIENTISTS	
DATE <u>8-23-90</u>		
OPERATOR(S) <u>BURROWS/WALLACE</u>		

COMPANY NAME	TRUCK NO.	DER STICKER NO.	TIME	GALLONS LOADED	PRODUCT		V.R. BACK PRESS (H <sub>2</sub> O)	LEAK LOCATIONS	LEAK	NO LEAK
					THIS LOAD	PREVIOUS LOAD				
TOC RETAIL	20107	010379	7:06	8600	2000 prem 1000 un 2600 mid	gas	6	B-5	✓	
FLEET	195603	009857	7:05	8000	4300 un 1700 SUPER	gas	9	D-2, B-5	✓	
McKENZIE	A061967	011828	7:00	8000	Unleaded	gas	7			✓
KEMAN	5694	010350	7:20	8500	6800 un 1700 prem	gas	5			✓
McKENZIE	A061842	011848	7:30	8600	6680 un 1920 prem	gas	5	D-2, D-4	✓	
McKENZIE	A063031	011050	8:00	8400	7840 un 8560 prem	gas	9			✓
Tri-STATE	2100	009151	8:50	7600	DIESEL	DIESEL				
American Petroleum	001	011094	9:00	8000	Prem.		6			✓
Petro-chemical	3002	009882	9:01	1500	SUPER	gas	6			✓
FLEET	184701	011849	9:05	8100	2600 plus 3800 prem 1700 unle	gas	11			✓
FLEET	194564	011835	9:08	8500	7100 un 1100 prem	gas	8	B-1, D-2, D-3	✓	
AVIATION	1872	010486			JET					
TOTAL				33700 42500						

TRUCK LEAK CHECKS

ENVIRONMENTAL ENGINEERING  
CONSULTANTS, INC.

CONSULTING ENGINEERS &  
ENVIRONMENTAL SCIENTISTS

PLANT GATX

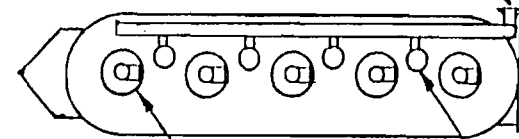
DATE 8-23-90

OPERATOR John Wallace

INSTRUMENT Asstech 1238

LEAK LOCATION DIAGRAM

(C) V.R. CONNECTION



(D) DOME LID (B) V.R. BOOT

1000  
780  
880  

---

16600  
79000  

---

95800

COMPANY NAME	TRUCK NO.	DER STICKER NO.	TIME	GALLONS LOADED	PRODUCT		V.R. BACK PRESS (1120)	LEAK LOCATIONS	LEAK	NO LEAK
					TITS LOAD	PREVIOUS LOAD				
Florida Rock + Tan K Lines	0149	009926	9:20	8000	4000 Prem 11000 un	gas	9			✓
PCT	7344	009875	9:57	1000	Prem.	Diesel un fuel	5			✓
T.J. CAMPBELL Clardy Oil	4 101	009168 011863	10:05 10:20	8600 8100	5300 un 2000 Prem 7300 Mid 4200 Mid 5800 un 1200 Super	gas water	11 7			✓ ✓
McKinzie	1063031	011050	10:45	8000	3700 un 4300 un	gas	8			✓
KEHAN	5461	009152	10:55	8500	5300 un 3000 Super	gas	10	D-1		✓
AVIATION	1076	011816		8000	SET					
FLEET	194545	01959	11:00	8300	5000 un 1100 Area 2000 Plus		10			✓
AirCRAFT SERVICE	7552	010268	<del>11:00</del>	960	DIESEL	DIESEL				
PCT	7342	009889		7700	Banded	SET				
AVIATION	1872	010486		8000	SET					
PCT	7340	009888		1000	Super	DIESEL				✓
TOTAL				8500 43100	Leak - good					

TRUCK LEAK CHECKS

ENVIRONMENTAL ENGINEERING  
CONSULTANTS, INC.

CONSULTING ENGINEERS &  
ENVIRONMENTAL SCIENTISTS

PLANT GATX

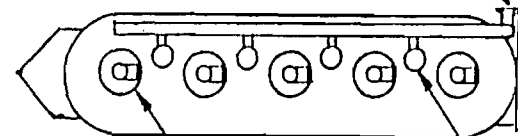
DATE 8-23-90

OPERATOR John Wallace

INSTRUMENT \_\_\_\_\_

LEAK LOCATION DIAGRAM

(C) V.R. CONNECTION



(D) DOME LID (B) V.R. BOOT





LOADING POSITION	PRODUCT	FINAL READING	INITIAL READING	VOLUME GALLONS
D-1	93 UL	1114751	1098122	16629
D-2	89 UL	816791	803291	13500
D-3	87 UL	4100133	4078333	21800
D-5	92 1/2	350580	350580	0
D-6	DIES	<del>894862</del>	<del>886362</del>	<del>8860</del>
C-1	93 UL	1334086	1325986	8100
C-2	89 UL	885469	881469	4000
C-3	87 UL	4674895	4633055	41840
C-5	92 UL	312589	310629	1960
C-6	DIES	<del>615236</del>	<del>603436</del>	<del>11800</del>
B-1	93 UL	669007	657300	11707
B-2	89 UL	517224	514624	2600
B-3	87 UL	2904840	2875960	28880
B-5	92 UL	314705	308785	5920
B-6	DIES	<del>483487</del>	<del>483487</del>	0
TOTAL			GASOLINE DIESEL	156936 20,360

PLANT GATX  
LOCATION TAMPA  
DATE 8-23-90  
OPERATOR(S) JW

PRODUCT DISPENSING DATA

ENVIRONMENTAL ENGINEERING  
CONSULTANTS, INC.

CONSULTING ENGINEERS,  
ENVIRONMENTAL SCIENTISTS

LOADING POSITION	PRODUCT	FINAL READING	INITIAL READING	VOLUME GALLONS
Bonded JET	JET-BONDED	614063	598363	15,700
A-7	JET	2043757	2011757	32000
TOTAL			JET	47,700

PLANT GATX  
LOCATION Tampa  
DATE 8-23-90  
OPERATOR(S) JW

PRODUCT DISPENSING DATA

ENVIRONMENTAL ENGINEERING  
CONSULTANTS, INC.

CONSULTING ENGINEERS,  
ENVIRONMENTAL SCIENTISTS

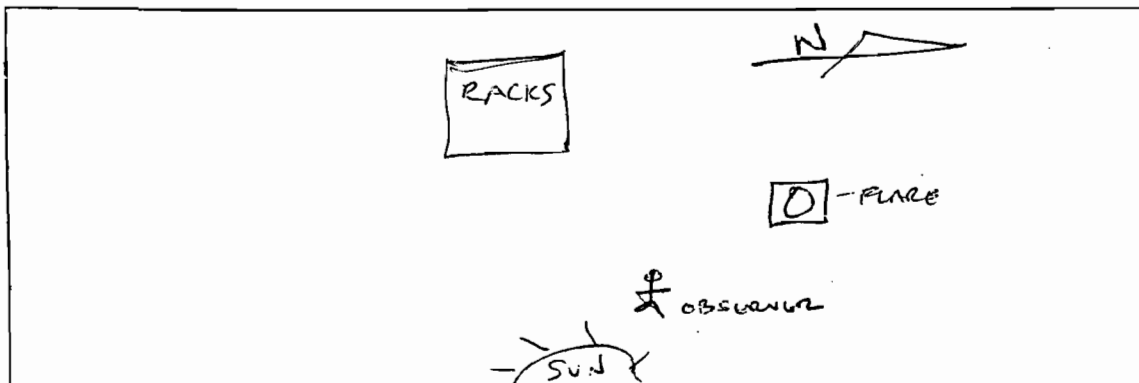
# ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

Consulting

Engineers • Chemists • Industrial Hygienists • Environmental Scientists

FUGITIVE OR SMOKE EMISSION INSPECTION OUTDOOR LOCATION	
Company <u>GATX TERMINALS CO.</u>	Observer <u>BYRON BURROWS</u>
Location <u>TAMPA, FL</u>	Affiliation <u>EEC INC</u>
Company representative <u>KAREN</u>	Date <u>8-23-90</u>
Sky Conditions <u>CLEAR</u>	Wind direction <u>SE</u>
Precipitation <u>NONE</u>	Wind speed <u>3-5 MPH</u>
Industry <u>BULK PETROLEUM TERMINAL</u>	Process unit <u>VAPOR FLARE</u>

Sketch process unit; indicate observer position relative to source and sun; indicate potential emission points and/or actual emission points.



OBSERVATIONS	Clock time	Observation period duration, min:sec	Accumulated emission time, min:sec.
Begin Observation	<u>0730</u>	<u>30:00</u>	<u>0:00</u>
	<u>0800</u>	<u>30:00</u>	<u>0:00</u>
	<u>0830</u>	<u>30:00</u>	<u>0:00</u>
	<u>0900</u>	<u>30:00</u>	<u>0:00</u>
	<u>0930</u>	<u>30:00</u>	<u>0:00</u>
	<u>TOTAL</u>	<u>120:00</u>	<u>0:00</u>
End observation			

Environmental Engineering Consultants  
5119 N. Florida Avenue  
P.O. Box 7854  
Tampa, FL 33673

September 07, 1990  
PACE Project  
Number: 200824517

Attn: Mr. Byron Burrows

GATX Terminals Inc.

PACE Sample Number:	90 0622066	90 0622074	90 0622082
Date Collected:	08/23/90	08/23/90	08/23/90
Date Received:	08/24/90	08/24/90	08/24/90
	Tedlar Bag #1	Tedlar Bag #2	Tedlar Bag #3
	<u>0700-0900</u>	<u>0900-1100</u>	<u>1100-1300</u>

BACKGROUND

Three (3) sealed Tedlar bags containing gasoline vapor were received by R. Niles Bashaw at PACE Inc. PACE Inc. was requested to analyze for the gasoline content and calculate the Btu value of the gasoline vapors.

ANALYSIS

Samples of gasoline vapor in the Tedlar bags were injected into a DB-5 megabore column equipped with a flame ionization detector. Gasoline standards were also injected and the gasoline content was calculated based on the peaks areas.

Btu calculations were based on 19,000 Btu per pound of gasoline.

RESULTS

<u>Sample ID</u>	<u>Btu per ft3</u>
#1 90 0622066	840
#2 90 0622074	630
#3 90 0622082	630

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

*Dr. James M. O'Neal*

Dr. James M. O'Neal  
Director, Sampling and Analytical Services

APPENDIX B  
CALCULATIONS

## EQUATIONS

### CONVERSION FACTORS

$$\text{GALLONS} * 3.785 = \text{LITERS}$$

$$K = 273 + C$$

$$^{\circ}\text{H}_2\text{O} * 0.0735 = ^{\circ}\text{Hg}$$

### VOLUME

$$V_{es} = 9.79278 * Y_m * (V_{mf} - V_{mi})[(P_b + P_g)/T_m]$$

$V_{es}$  = Meter volume corrected to standard conditions  
(ft<sup>3</sup> @ 20 c, 29.92 °Hg)

$Y_m$  = Meter calibration coefficient

$V_{mf}$  = Final meter volume reading

$V_{mi}$  = Initial meter volume reading

$P_b$  = Barometric pressure (°Hg)

$P_g$  = Average static pressure in volume meter (°Hg)

$T_m$  = Average absolute meter temperature ( K)

### VELOCITY

$$Q_s = 300 * V_{es} * A_s$$

$Q_s$  = Duct velocity corrected to standard conditions  
(m<sup>3</sup> @ 20 c, 29.92 °Hg)

$A_s$  = Cross sectional area of duct (ft<sup>2</sup>)

VAPOR FLARE CALCULATIONS

PLANT: GATX TERMINALS INC.  
TAMPA TERMINAL

DATE: AUGUST 23, 1990

TIME (min)	VOLUME (cu.ft.)	READING METER 1 METER 2	PRESSURE ("H2O)	DUCT TEMP. (deg C)	BAROMETER (in.Hg)	VOLUME (ft3 @ STP)	VELOCITY (ft/sec.)	AVERAGE HRLY. VEL.
0	0	77230						
5	140	77370	4.6	28.2	30.00	276.18	1.70	
10	900	78210	4.8	28.5	30.00	1577.39	9.73	
15	1470	78870	7.2	28.4	30.00	1220.07	7.53	
20	1800	79310	7.5	28.4	30.00	764.34	4.72	
25	1880	79350	2.5	28.3	30.00	117.72	0.73	
30	2360	79850	4.5	28.8	30.00	964.49	5.95	
35	2500	80080	6.4	28.6	30.00	366.06	2.26	
40	2850	80450	6.4	28.5	30.00	712.58	4.40	
45	2860	80460	0.0	28.9	30.00	19.46	0.12	
50	2860	80460	0.0	28.9	30.00	0.00	0.00	
55	2860	80460	0.0	29.0	30.00	0.00	0.00	
60	2860	80460	0.0	29.0	30.00	0.00	0.00	3.09
65	3060	80690	5.0	29.1	30.00	423.29	2.61	
70	3200	80840	5.2	29.4	30.00	285.33	1.76	
75	3300	80940	5.2	29.5	30.00	196.71	1.21	
80	3520	81180	5.2	29.5	30.00	452.44	2.79	
85	3710	81400	5.1	29.5	30.00	403.16	2.49	
90	3910	81610	5.0	29.9	30.00	402.53	2.48	
95	3950	81660	0.0	30.8	30.00	87.03	0.54	
100	3950	81660	0.0	30.8	30.00	0.00	0.00	
105	3950	81660	0.0	30.6	30.00	0.00	0.00	
110	3950	81660	0.0	30.6	30.00	0.00	0.00	
115	4030	81750	4.0	31.2	30.00	165.79	1.02	
120	4210	81930	4.0	31.5	30.00	350.74	2.16	1.42
125	4600	82350	5	31.5	30.03	791.85	4.89	
130	5010	82800	7.8	31.5	30.03	846.43	5.22	
135	5470	83290	8.2	31.3	30.03	936.52	5.78	
140	5600	83430	6.0	31.9	30.03	264.24	1.63	
145	5770	83630	8.5	31.6	30.03	364.65	2.25	
150	6190	84070	5.0	31.9	30.03	839.63	5.18	
155	6370	84260	4.0	32.4	30.03	359.77	2.22	
160	6380	84270	0.0	34.0	30.03	19.16	0.12	
165	6530	84430	3.5	32.9	30.03	300.57	1.85	
170	6540	84440	0.0	33.6	30.03	19.18	0.12	
175	6610	84520	5.0	34.1	30.03	145.40	0.90	
180	6660	84560	2.0	35.5	30.03	86.21	0.53	

VAPOR FLARE CALCULATIONS

PLANT: GATX TERMINALS INC.  
TAMPA TERMINAL

DATE: AUGUST 23, 1990

TIME (min)	VOLUME (cu.ft.)	READING	PRESSURE ("H2O)	DUCT TEMP. (deg C)	BAROMETER (in. Hg)	VOLUME (ft3 @ STP)	VELOCITY (ft/sec.)	AVERAGE HRLY. VE
	METER 1	METER 2						
185	6710	84620	6.0	34.7	30.03	106.67	0.66	
190	7110	85060	8.0	32.5	30.03	824.43	5.09	
195	7290	85240	5.0	32.6	30.03	350.67	2.16	
200	7310	85270	1.0	33.0	30.03	48.17	0.30	
205	7480	85450	5.0	32.7	30.03	340.81	2.10	
210	7680	85670	6.0	32.8	30.03	409.83	2.53	
215	7790	85800	5.0	32.8	30.03	233.63	1.44	
220	7790	85800	0.0	32.8	30.03	0.00	0.00	1.47
225	7990	86040	4.0	32.5	30.03	427.70	2.64	
230	8100	86130	6.0	32.8	30.03	195.16	1.20	
235	8550	86630	6.5	32.7	30.03	928.43	5.73	
240	8710	86810	5.0	33.7	30.03	330.00	2.04	
245	9300	87470	6.4	32.2	30.05	1224.12	7.55	
250	9570	87710	5.5	32.3	30.05	498.20	3.07	
255	9890	88070	5.0	32.6	30.05	662.81	4.09	
260	10080	88270	5.0	32.7	30.05	380.02	2.34	
265	10220	88420	3.0	32.6	30.05	281.30	1.74	
270	10340	88550	5.0	32.4	30.05	243.84	1.50	
275	10670	88910	5.0	31.7	30.05	674.54	4.16	
280	10920	89190	6.0	31.5	30.05	519.72	3.21	3.27
285	11250	89540	6.4	31.3	30.05	667.89	4.12	
290	11470	89790	6.2	31.4	30.05	461.26	2.85	
295	11880	90240	5.8	31.1	30.05	844.02	5.21	
300	12150	90530	5.2	31.1	30.05	548.80	3.39	
305	12740	91060	3.0	30.3	30.05	1094.64	6.75	
310	12990	91340	5.0	29.8	30.05	521.38	3.22	
315	13080	91440	3.0	28.9	30.05	186.56	1.15	
320	13080	91440	0.0	28.2	30.05	0.00	0.00	
325	13080	91440	0.0	27.4	30.05	0.00	0.00	
330	13080	91440	0.0	26.9	30.05	0.00	0.00	
335	13080	91440	0.0	26.9	30.05	0.00	0.00	
340	13080	91440	0.0	26.8	30.05	0.00	0.00	
345	13080	91440	0.0	26.7	30.05	0.00	0.00	
350	13080	91440	0.0	26.7	30.05	0.00	0.00	
355	13260	91640	5.0	27.8	30.05	376.30	2.32	
360	13510	91900	3.2	27.7	30.05	503.01	3.10	
SUM	13510	14530				27642.82		
AVERAGE			3.872222	30.70416	30.02666		2.368611	2.315678



APPENDIX C  
CALIBRATION DATA

**ROOTS® PROVER DATA SHEET**

ME-05

LOCATION ENVIRONMENTAL ENGINEERING  
 FIELD METER SIZE T-30  
 FIELD METER SERIAL 612956

READ - 0122295

ROOTS PROVER SERIAL P060216  
 OPERATOR R. SWILLEY  
 DATE 1/16/90

RUN NUMBER	TIME OF DAY	FIELD PRESET COUNT	FLOW RANGE SELECTOR	INDICATED FLOW RATE CFH	PROVER PRESET COUNT	RUNNING TIME SECONDS	CALCULATED FLOW RATE CFH	UNCORR. PROOF PERCENT	Δ P PERCENT	Δ T PERCENT	CORRECTED PROOF PERCENT	ACCURACY PERCENT	COMMENTS
1		01	H	10,000	18	35.5	100%	102.2	1.15	0.0	101.05		
2		01	H	10,000	18	35.6	100%	102.3	1.15	0.0	101.15		<u>SPIN TEST</u>
3		01	H	8,000	18	44.9	70%	101.4	.75	0.0	100.65		89.00
4		01	H	8,000	18	45.6	70%	101.4	.75	0.0	100.65	AS FOUND	89.00
5		01	m	6,000	18	60.0	50%	99.3	.40	0.0	98.9		92.00
6		01	m	6,000	18	60.0	50%	99.4	.40	0.0	99.0		AVG. 90.00
7		01	L	2,000	18	188.2	20%	100.9	.05	0.0	100.85		
8		01	L	2,000	18	186.6	20%	100.1	.05	0.0	100.05		
1		01	H	10,000	18	35.7	100%	101.8	1.25	0.0	100.55		
2		01	H	10,000	18	35.9	100%	101.8	1.25	0.0	100.55		<u>SPIN TEST</u>
3		01	H	8,000	18	45.6	70%	101.4	.75	0.0	100.65		98.00
4		01	H	8,000	18	45.8	70%	101.4	.75	0.0	100.65	AS LEFT	99.00
5		01	m	6,000	18	60.3	50%	100.2	.40	0.0	99.8		99.00
6		01	m	6,000	18	60.4	50%	100.3	.40	0.0	99.9		AVG. 98.66
7		01	L	2,000	18	188.1	20%	100.5	.05	0.0	100.45		
8		01	L	2,000	18	189.1	20%	100.5	.05	0.0	100.45		

615261  
T-30 MK II (L.P.)

CUSTOMER: EQUIPMENT CONTROLS CO  
NORCROSS GA  
ORDER #: 01899

METER TYPE: T-30 MK II (L.P.)

WORKING PRESSURE: 175 PSI

SERIAL NUMBER: 615261

RECOMMENDED MINIMUM

FIELD SPIN TIME: 90 SECONDS

CHANGE GEARS: 76/49

COMMENTS:

TEST PRESSURE: VACUUM	POINT #	FLOW RATE (ACFH) AIR	ERROR (%)
	1	26720	-0.1
	2	1220	-0.4
	3	3510	+0.3
	4	7160	-0.4
	5	14520	-0.7
	6	21980	-0.3

ROCKWELL ORDER #: DuBOIS G13-45895  
TESTED BY-LINE: E.D.S.-LPL#1  
DATE & TIME: 9/11/89 11:54:03  
METRIC-SPECC: N - 0  
PURSV-PURST-SSN: PL14.2 - 31 - 06762  
DISK#-ENTRY#: 40 - 17

\*\*\*\*\*  
\* ROCKWELL INTERNATIONAL \*  
\* MEASUREMENT & FLOW CONTROL DIVISION \*  
\* P. O. BOX 528 \*  
\* DuBOIS PA 15801 \*  
\*\*\*\*\*

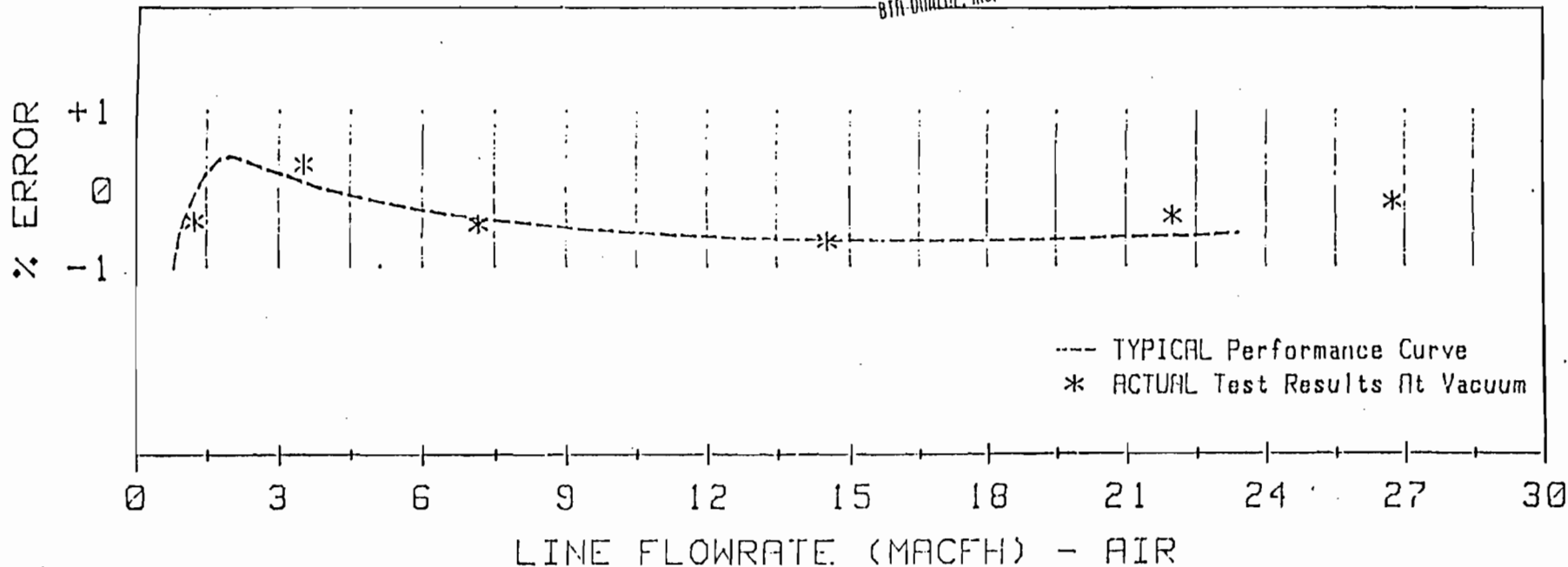
The Former  
MEASUREMENT & FLOW  
CONTROL DIVISION  
of Rockwell International  
is now part of  
BTR DUNLOP, INC.



Rockwell International  
 Measurement & Flow Control Division  
 DuBois, PA U.S.A.

The former  
 MEASUREMENT & FLOW  
 CONTROL DIVISION  
 of Rockwell International  
 is now part of  
 BTA-DUNLOP, INC.

CALIBRATION TEST DATA  
 ROCKWELL TURBO-METER  
 T-30 MK II (L.P.)



Customer: EQUIPMENT CONTROLS CO  
 NORCROSS GA  
 Customer Order #: 01899  
 Meter Type: T-30 MK II (L.P.)  
 Working Pressure: 175 PSI  
 S/N: 615261  
 Change Gears: 76/49  
 Rockwell Order #: G13-45095  
 Test Date: 9/11/89  
 Tested By: E.D.S.-LPL#1

Calibration Factor: pulses/cu. ft.  
 Pulse Frequency: pulses/sec.

Recommended minimum field spin time,  
 complete meter less index: 90 seconds

T-30 MK II (L.P.)  
 615261

HC-8022-0

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

Combustible Gas Detector Calibration

Instrument

Manufacture: Gastech  
 Model No.: 1238  
 Serial No.: E0365  
 Range: 0-100% LEL

Zero Air Cylinder

Manufacture: Air Products, Inc.  
 Cylinder No.: 16941C  
 Concentration: 0.1 ppm THC

Calibration System

Manufacture: EEC, Inc.  
 Type: Gas Dilution


Propane Cylinder

Manufacture: Air Products Inc.  
 Cylinder No.:  
 Concentration: 99.5% (vol)  
 Date Purchased: 11-9-89

Methane Cylinder

Manufacture: Scott's Specialty Gases Inc.  
 Cylinder No.: 109100  
 Concentration: 10,000 ppm  
 Date Purchased: 2/90

Date: 7-6-90

Signature: 

Point	Dilution Flow (cc/min)	Gas Flow (cc/min)	Obs. Conc. (% LEL C3H8)	Cal. Conc. (% LEL C3H8)	% Difference
Zero	2000	0.0	0.0	0.0	0.0
Propane	6630	149.9	100	100	0.0
Methane	NA	NA	15	NA	NA

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

Combustible Gas Detector Calibration

Instrument

Manufacture: Gastech  
Model No.: GP204  
Serial No.: 00576  
Range: 0-100% LEL

Zero Air Cylinder

Manufacture: Air Products, Inc.  
Cylinder No.: 16941C  
Concentration: <0.1 ppm THC

Calibration System

Manufacture: EEC, Inc.  
Type: Gas Dilution


Propane Cylinder

Manufacture: Air Products Inc.  
Cylinder No.:  
Concentration: 99.5% (vol)  
Date Purchased: 11-9-89

Methane Cylinder

Manufacture: Scott's Specialty Gases Inc.  
Cylinder No.: 109100  
Concentration: 10,000 ppm  
Date Purchased: 2/90

Date: 7-6-90

Signature: 

Point	Dilution Flow (cc/min)	Gas Flow (cc/min)	Obs. Conc. (% LEL C3H8)	Cal. Conc. (% LEL C3H8)	% Difference
Zero	2000	0.0	0.0	0.0	0.0
Propane	6630	149.9	100	100	0.0
Methane	NA	NA	15	NA	NA

# Environmental Engineering Consultants, Inc.

Magnehelic Calibration

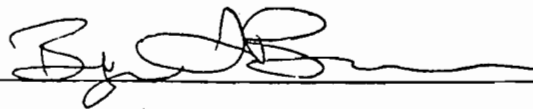
Manufacture DWYER INSTRUMENTS

Serial No. R808059 MR7

Range 0-20

Location EEC

Calibration Date 7-20-90

Calibrated By 

Magnehelic Inches H <sub>2</sub> O	Water Manometer Inches H <sub>2</sub> O	% Difference
Zero	0	0
4.1	4.0	+ 2.5
7.7	8.0	- 3.8
11.5	12.0	- 4.2
15.8	16.0	- 1.3

Environmental Engineering Consultants, Inc.  
Magnehelic Calibration

Manufacture DWYER INSTRUMENTS INC.

Serial No. R50524CMV14

Range 0-5

Location E.E.C WEST

Calibration Date 7-20-90

Calibrated By John Wallace

Magnehelic Inches H <sub>2</sub> O	Water Manometer Inches H <sub>2</sub> O	% Difference
Zero	0	0%
1.0	1.0	0%
2.0	2.0	0%
3.0	3.0	0%
3.9	4.0	2.5%
4.8	5.0	4.0%



Environmental Engineering Consultants, Inc.  
Magnehelic Calibration

Manufacture DWYER INSTRUMENTS INC

Serial No. R890829RR101

Range 0-20

Location E.E.C WEST

Calibration Date 7-20-90

Calibrated By John Wallace

Magnehelic Inches H <sub>2</sub> O	Water Manometer Inches H <sub>2</sub> O	% Difference
Zero	0	0%
4.0	4.0	0%
8.0	8.0	0%
12.0	12.0	0%
16.0	16.0	0%

Environmental Engineering Consultants, Inc.  
Magnehelic Calibration

Manufacture DWYER INSTRUMENTS INC.

Serial No. R 81012 MR39

Range 0 - 20

Location E.E.C. WEST

Calibration Date 7-20-90

Calibrated By John Wallace

Magnehelic Inches H <sub>2</sub> O	Water Manometer Inches H <sub>2</sub> O	% Difference
Zero	0	0%
2.0	2.0	0%
4.0	4.0	0%
8.0	8.0	0%
12.0	12.0	0%
16.0	16.0	0%



RECEIVED

MAR 25 1991

DER-BAQM

VOC EMISSIONS TEST REPORT  
BULK GASOLINE TERMINAL  
GATX TERMINALS CORPORATION  
TAMPA, FLORIDA  
JULY 18, 1989

Prepared For:

GATX TERMINALS CORPORATION  
100 GATX DRIVE  
TAMPA, FLORIDA 33619

Prepared By:

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.  
5119 NORTH FLORIDA AVENUE  
TAMPA, FLORIDA 33603

AUGUST 22, 1989

TABLE OF CONTENTS

I. SUMMARY

II. SOURCE DESCRIPTION

III. METHODS AND PROCEDURES

APPENDIX A - Flare Data and Calculations

APPENDIX B - Visible Emissions Test Report

APPENDIX C - Calibration Data

## I. SUMMARY

On July 18, 1989, Environmental Engineering Consultants, Inc. performed an initial compliance test on the truck loading rack (Permit No. AC29-151060) at GATX Terminals Corporation's Tampa facility. VOC emissions were controlled by a John Zink Company Model GV-LH-8400-2 open flame flare unit.

The test was conducted by Carl Fink, Byron Burrows, and Greg Sears of Environmental Engineering Consultants, Inc. with the assistance and cooperation of the employees of GATX Terminals Corporation.

A summary of the test results is shown in Table 1. The average heating value for the gas burned was 438 BTU/scf.

The maximum calculated velocity (based on total pumps used during test) at the flare tip was 19.8 ft/sec. which was less than the maximum allowable velocity of 66.7 ft/sec.

A two hour visible emissions test was performed using EPA Method 22 procedures. No emissions were observed.

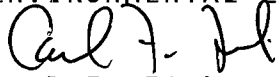
The vapor collection system pressure, measured at the truck rack vapor recovery line, was less than 18 inches of water for all trucks loaded during the test. The maximum pressure recorded was 11 inches of water.

All emission rates were determined according to the procedures prescribed by the Florida Department of Environmental Regulation and the tested source was found to be in compliance with applicable emissions standards.

I hereby certify that these results are true and correct and were obtained by the procedures and methods described herein.

Respectfully Submitted;

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.



Carl F. Fink  
Senior Environmental Engineer

TABLE 1  
TEST SUMMATION  
VAPOR FLARE RESULTS

PLANT: GATX - Tampa

TEST DATE: July 18, 1989

Average Heat Value (BTU/scf)	Max. Allowable Velocity (ft/sec)*	Max. Orifice Velocity (ft/sec)**
438	66.7	19.8

\*  
 $V_{max} = 28.75 + 0.0867 (Ht)$

From EPA Guidance: Use of Flares at Bulk Gasoline Terminals,  
June 21, 1985.

\*\*  
Based on maximum loading rate: 8 pumps @ 600 gal./min.  
and maximum orifice area: 77.8 sq. in.



TABLE 2  
TEST SUMMATION  
LEAK CHECKS AT LOADING RACKS

PLANT: GATX - Tampa

TEST DATE: July 18, 1989

Loading Positions	2
Total Trucks Checked	10
No. W/Leaks *	2
No. W/Zero Leaks	8

\* Leak defined as any reading of greater than 30% LEL (as propane) when checking tank truck with combustible gas detector during product loading.

## II. SOURCE DESCRIPTION

GATX Terminals Corporation's Tampa facility, which is located on Hooker's Point in Tampa, is comprised of both petroleum liquid storage and a bulk gasoline terminal. The terminal has three (3) loading positions (one pumping jet fuel only) each equipped with a vapor recovery line. During loading of the trucks, which are submerged filled using the bottom loading method, the displaced vapors are routed to a surge tank and then to the vapor flare.

The vapor flare manufactured by the John Zink Company, is an air-assisted type with a two stage burner unit. Vapors from the loading racks pass through a hydraulic seal and a flame arrestor prior to the combustion area. The burner automatically switches to the dual stage mode with a greater orifice area when the delivery line back pressure exceeds a pre-set value.

An automatic pilot light fueled by propane is monitored ensuring that loading during flare operation cannot be accomplished unless a flame is present.

### III. METHODS AND PROCEDURES

The sampling and analytical procedures used for determining compliance are those prescribed by the Florida Department of Environmental Regulation. The specific procedures are described in 40 CFR 60.503 and an EPA Guidance titled "Use of Flares at Gasoline Terminals" dated June 21, 1985.

The test was conducted for eight hours to meet the throughput requirement of 300,000 liters of gasoline. During the test a two hour Method 22 visible emissions determination was made and samples of the inlet vapors were collected for heating value measurements. Compliance was determined using the velocity/heating value relationship described in the EPA Guidance listed above.

Heating value of the vapor delivered to the flare was determined from four bag samples, each integrated over two hours, collected through a port prior to the gas flow dividing for the separate burner stages. The sample was pumped into Tedlar gas sample bags with a teflon lined diaphragm pump at a constant rate controlled by a stainless steel valve on an indicating flowmeter. All gas sample lines were teflon with stainless steel fittings and were leak checked prior to the test. Sample flow rate was constant at approximately 150 cc/min. during periods when vapor was being delivered to the flare.

The heating value of the collected gas samples was determined using gas chromatograph techniques by Pace

Laboratories in Tampa, Florida under the direction of Michael W. Palmer. The results were reported as BTU/scf.

The maximum possible velocity of vapors at the flare burners was determined by calculating the maximum vapor displacement rate from the loading racks (assuming that all pumps used during the test were loading simultaneously) and dividing by the total orifice area at maximum flow. The maximum allowable velocity was calculated from the average heating value of the gas samples using the EPA Alternate Criteria Method. The maximum allowable velocity was compared to the calculated maximum velocity to determine compliance.

APPENDIX A  
FLARE DATA AND CALCULATIONS

FLOWRATE/VELOCITY CALCULATIONS

PLANT: GATX - Tampa

DATE: July 18, 1989

During the vapor flare test, eight pumps were used in dispensing product, including diesel, into the trucks. To estimate the maximum possible throughput during the test, assume that all eight pumps were operating simultaneously at their maximum output of 600 gallons per minute. The maximum velocity at the flare tip would be the maximum flow rate divided by the total orifice area at the tip.

$$\begin{aligned}\text{Maximum Flow Rate} &= (8)(600 \text{ gal/min}) \\ &= 4,800 \text{ gal/min. (641.7 CFM)}\end{aligned}$$

$$\begin{aligned}\text{Orifice Area: Stage 1:} & 38.9 \text{ sq. in.} \\ \text{Stage 2:} & 38.9 \text{ sq. in.} \\ \text{Total:} & 77.8 \text{ sq. in. (0.5403 sq. ft.)}\end{aligned}$$

$$\begin{aligned}\text{Maximum Velocity} &= (641.7 \text{ CFM}) / (0.5403 \text{ sq. ft.})(60 \text{ sec/min}) \\ &= 19.8 \text{ Ft/sec}\end{aligned}$$

LOADING POSITION	PRODUCT	FINAL READING	INITIAL READING	VOLUME GALLONS
<u>LANE B</u>				
B-1	93 U/L	022990	0000022990	0
B-2	89 U/L	008379	0000008379	0
B-3	87 U/L	0912753	0000877073	35,680
B-4	REG. LD.	0250730	0000245530	5,200
B-5	92 U/L	0225817	0000217997	7,820
B-6	DIES.	0572673	0000558073	* 14,600
<u>LANE C</u>				
C-1	93 U/L	09638	0009638	0
C-2	89 U/L	09010	0009010	0
C-3	87 U/L	1120438	1100638	19,800
C-4	REG. LD.	0222681	0210681	12,000
C-5	92 U/L	0347344	0345344	2,000
C-6	DIES.	0760658	0753458	* 7,200
TOTAL			GASOLINE DIESEL	82,500 GAL 21,800 GAL

PLANT GATX  
LOCATION TAMPA  
DATE 7-18-89  
OPERATOR(S) FINK / BULLOCKS

PRODUCT DISPENSING DATA

ENVIRONMENTAL ENGINEERING  
CONSULTANTS, INC.

CONSULTING ENGINEERS,  
ENVIRONMENTAL SCIENTISTS





COMPANY NAME	TRAILER <del>TRUCK</del> NO.	DER STICKER NO.	TIME	GALLONS LOADED	PRODUCT		V.R. BACK PRESS (H <sub>2</sub> O)	LEAK LOCATIONS	LEAK	NO LEAK
					THIS LOAD	PREVIOUS LOAD				
CIRCLE-K	5660 M-30818	008777 <del>M-30818</del>	7:07 AM	8800	GAS	GAS	8	/		✓
McKENZIE	A063031 AL-808J	007515 AL-808J	7:12 AM	<sup>540</sup> <del>640</del> 8800	GAS	GAS	<del>8</del> 11	D2	✓	
CIRCLE-K	194647 U-18874	008702	7:34 AM	<del>8800</del>	GAS	GAS	9	D3 20% LEL	<del>VERY SLIGHT</del>	6.5 ✓
McKENZIE	A061467 AL 869K	007420	8:13 AM	8000	GAS	DIESEL	9			✓
FLEET	194648 U-18875	008714	8:30 AM	8500	GAS	DIESEL	6			✓
TRANSPORT SOUTH INC.	090 A53-89J	007222	9:00 AM	7000	DIESEL	DIESEL	<del>8</del>			✓
FLEET	194718 NR-785I	008886	9:08 AM	8500	GAS	GAS	6	D4 100% LEL	✓	
McKENZIE	A06197	007420	10:27	6000	GAS	GAS	10			✓
FLEET	194647	008702	1326	8800	GAS	GAS	9			✓
PETROLEUM TRANSPORT	0040	00743A	1355	9000	GAS	GAS	10			✓
TRANSPORT SOUTH	090	007222	1415	7200	DIESEL	DIESEL	6			
TRI-STATE CARRIERS	2100	00709B	1420	7600	DIESEL	DIESEL	7			
TOTAL										

TRUCK LEAK CHECKS

ENVIRONMENTAL ENGINEERING  
CONSULTANTS, INC.

CONSULTING ENGINEERS &  
ENVIRONMENTAL SCIENTISTS

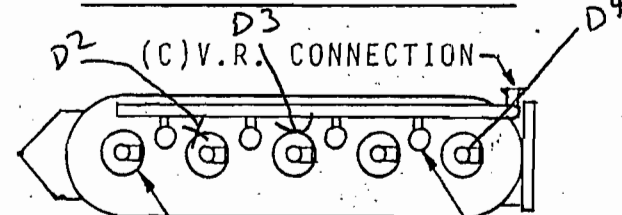
PLANT GATX - TAMPA

DATE 7-18-89

OPERATOR G.S.

INSTRUMENT GASTEC 1238

LEAK LOCATION DIAGRAM



(D) DOME LID (B) V.R. BOOT

COMPANY NAME	TRUCK NO.	DER STICKER NO.	TIME	GALLONS LOADED	PRODUCT		V.R. BACK PRESS (H <sub>2</sub> O)	LEAK LOCATIONS	LEAK	NO LEAK
					THIS LOAD	PREVIOUS LOAD				
FLA. ROCK & TANK LINES	T 8191	007472	1435	8000	GAS	GAS	7			✓
TOTAL										

**TRUCK LEAK CHECKS**

**ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.**

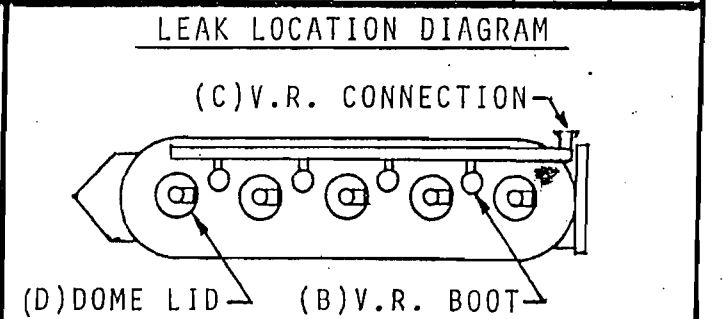
CONSULTING ENGINEERS & ENVIRONMENTAL SCIENTISTS

PLANT GATX - TAMPA

DATE 7-18-89

OPERATOR Carl Jil

INSTRUMENT GASTECH 1238



APPENDIX B  
VISIBLE EMISSIONS TEST REPORT

5:46 / 7:29

# ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

Consulting  
 Engineers • Chemists • Industrial Hygienists • Environmental Scientists

FUGITIVE OR SMOKE EMISSION INSPECTION OUTDOOR LOCATION			
Company <u>GATX</u>	Observer <u>CARL FINK</u>		
Location <u>TAMPA</u>	Affiliation <u>E. E. C. INC</u>		
Company representative <u>E. MACINSKI / T. RIGG</u>	Date <u>7-18-89</u>		
Sky Conditions <u>50% OVERCAST</u>	Wind direction <u>SOUTH</u>		
Precipitation <u>NONE</u>	Wind speed <u>3-5 MPH</u>		
Industry <u>BULK GASOLINE TERMINAL</u>	Process unit <u>VAPOR FLARE</u>		
Sketch process unit; indicate observer position relative to source and sun; indicate potential emission points and/or actual emission points.			
OBSERVATIONS	Clock time	Observation period duration, min:sec	Accumulated emission time, min:sec.
Begin Observation	<u>0730</u>	<u>30:00</u>	<u>0:00</u>
	<u>0800</u>	<u>30:00</u>	<u>0:00</u>
	<u>0830</u>	<u>30:00</u>	<u>0:00</u>
	<u>0900</u>	<u>30:00</u>	<u>0:00</u>
	<u>0930</u>	<u>30:00</u>	<u>0:00</u>
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
End observation	_____	_____	_____

APPENDIX C  
CALIBRATION DATA

# Environmental Engineering Consultants, Inc.

## Combustible Gas Detector Calibration

Instrument  
 Manufacture GASTECH  
 Model No. 1238  
 Serial No. E0365  
 Range 0 - 100% LEL

Propane Cylinder  
 Manufacture AIR PRODUCTS  
 Cylinder No. 7822D  
 Concentration 99.5% (VOL)  
 Date Purchased 10-31-88

Calibration System  
 Manufacture EEC, INC  
 Type GAS DILUTION

Zero Air Cylinder  
 Manufacturer AIR PRODUCTS  
 THC Concentration < 0.1 PPM  
 Serial No. SG 6927C

Date 5-24-89      Signature Carl J. [unclear]      Location EEC, INC

Point	Dilution Flow (cc/min)	C <sub>3</sub> H <sub>8</sub> Flow (cc/min)	Obs. Conc. % ( <del>LEL</del> )	Cal. Conc. % C <sub>3</sub> H <sub>8</sub> ( <del>LEL</del> )	% Difference
Zero	2000	0	0%	0	0
Span	6192	140	100.0%	2.20   100.0	0

NEXT CALIBRATION DUE 8-24-89





CENTRAL FLORIDA PIPELINE CORPORATION  
subsidiary of  
GATX TERMINALS CORPORATION

1904 Hemlock Avenue  
Tampa, FL 33605  
813-248-8361

December 31, 1990

Mr. C. H. Fancy, P. E.  
Bureau Chief of Air Section  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

RECEIVED  
JAN 7 1991  
DER-BAQM

Re: Central Florida Pipeline Corporation  
Modification to Existing Air Pollution Source  
TN6 and C4 Flare (AC48-188406)

Dear Mr. Fancy:

Central Florida Pipeline Corporation (CFPL), a subsidiary of GATX Terminals Corporation (GATX), is in receipt of your request for additional information relative to the permit to modify an existing air pollution source with the proposed installation of a Flare Unit at the Taft facility, Orange County, Florida. In response to the Department's questions, GATX provides the following information:

1. Please submit a process flow diagram showing all fill connections of the existing facility (Permit No. A048-126131) which must include the average and maximum loading rates from racks T1, T2, TX3, C4, and TN6, along with updated process flow diagram showing the proposed changes.

Response: GATX hereby submits a process flow diagram showing all fill connections of the existing facility with the average and maximum loading rates from each rack. Also provided is an updated process flow diagram showing the proposed changes to racks C4 and TN6. Please refer to Attachment I. The average and maximum loading rates for truck racks T1, T2 and TX3, respectively, are 240 GPM and 8200 GPM per rack. GATX proposes the average and maximum loading rates for truck racks TN6 and C4, respectively, to be 240 GPM and 9000 GPM.

Note: The maximum GPM for the VRU and flare are per manufacturer's specifications.

2. List and quantify all pollutants including lead, NOx, CO, etc., from the combustor. Include assumptions and calculations.

Response: GATX provides as Attachment II the assumptions and calculations of all known pollutants from the combustor. Based on available flare test results data,



# GATX

GATX TERMINALS CORPORATION  
100 GATX DRIVE  
TAMPA, FL 33605

*Fold at line over top of envelope to the right  
of the return address.*

**CERTIFIED**

P 798 260 379

**MAIL**

Mr. C.H. Fancy  
Bureau Chief of Air Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

pollutants other than VOC's indicate an inability to accurately estimate emissions. Therefore, AP-42 Table 1.5-1 was used for the basis of the quantification of all pollutants.

3. Estimate the change (increase or decrease) in emissions expected to result from the change from VRU to combustor control.

Response: GATX expects the emissions to decrease as a result in change from VRU to combustor control. Per the manufacturer's specifications ratings, the VRU model is 95% efficient while the flare combustor control unit is rated at 97.3% efficiency.

4. According to the construction permit application, only two of the five loading racks vapors will be routed to the flare. Do you plan to route the vapors from the remaining three loading racks to the flare in future? Do you plan to load kerosene along with gasoline and diesel at the C4 loading rack?

Response: GATX proposes only routing the two loading racks to the flare unit, which is to supplement the existing VRU. Please note the Attachment I drawing that entails the bypass connection between the VRU and flare unit which enables utilization of the VRU operation if necessary. GATX does not intend to load kerosene at the loading racks.

5. What is the net heating value of the gas being combusted and the maximum velocity (Vmax) for the flare? As per Item H, Section III, the inlet gas flow rate is 1203 ACFM. Is this the maximum inlet gas flow you expect to be routed to the flare unit both racks/all fill connections operating simultaneously? Include assumptions and calculations.

Response: The net heating value of the gas being combusted varies over time and condition. The anticipated average net heating value is 400 BTU/scf. As per the application Item H, Section III, the inlet gas flow rate should be 962.52 ACFM rather than 1203 ACFM. The 1203 ACFM was derived on the basis of a five bay truck loading rack rather than the four bay loading racks at the Taft terminal. As well the outlet gas flow rate should be reduced to 18,228.52 ACFM rather than 18,469 ACFM. The maximum velocity is 59.41 fps. See Attachment III for assumptions and calculations.

The diameter of the stage 1 burner is 6" and the stage 2 burner is 8". The effective area of each should be reduced to half the calculated area due to the presence of a spiral wound crimped ribbon flame arrester installed between the staging control valve and the burner tips.

6. How is the presence of the flare pilot flame and gas flow rates monitored on a continuous basis?

Response: The flare pilot flame is monitored by a thermocouple, which feeds a process logic controller, which in turn, communicates to the main terminal controller. Loading of trucks is not permitted unless the flare pilot flame is present. The gas flow rates are monitored by a liquid seal drum which is maintained by high and low pressure and level switches. When the water column reaches 5" water column the first stage burner is activated. The second stage burner will open when the operating pressure reaches 5" water column level again.

7. What is the height of the nearest building/structure and how far is it from the flare stack?

Response: The distance of the nearest building in relation to the flare is 100 feet. However, please note the definition of a stack referenced in 17-2.100 (190). Therefore, GATX does not believe the regulation 17-2.270(3)(a) 1 and 2 is applicable (referenced regulation copies attached).

8. To meet the 35 mg/l VOC emission standard, the flare should be enclosed so that appropriate compliance testing can be conducted. Please submit a stack drawing showing sampling locations.

Response: EPA has established an alternative performance standard for flares to ensure compliance with the 35 mg/l standard. The flare testing procedure is contained in 40 CFR 60.18 (copy attached). This alternative method was developed to avoid having to stack test flares using conventional stack testing techniques. Under this method all measurement/samples are taken upstream of the burner prior to combustion. Therefore, enclosure of the flame is not

Mr. C. H. Fancy  
Dec. 31, 1990  
Page 4

necessary. See Attachment IV for an example of the proposed alternative method.

I trust this additional information completes CFPL's construction permit application. Should this not be the case, please contact me as soon as possible so that CFPL may provide any further information.

Sincerely,  
CENTRAL FLORIDA PIPELINE CORPORATION

*Caren J. Sennie for*

Tom Rigg  
Florida Operations Manager

CL:TR:mr

c: M. Baig, FDER  
C. Collins, FDER Central District  
D. Nester, Orange County EPD

ATTACHMENT II

RESPONSE TO FDER'S LETTER OF NOV. 15, 1990

Item 2

In order to provide FDER with an estimate of emissions from the flare, the total uncontrolled VOC's entering the flare were calculated using the information from application. The results were then equated to an equivalent amount of propane. The emissions were calculated using AP-41 Table 1.5.-1 emission factors for industrial propane combustion.

The maximum actual hourly and annual loading rates for gasoline and diesel from the application have been used in conjunction with the loading loss equation in AP-42 Section 4.4 (the original application for a summary of the input parameters), the inlet concentration to the flare would be:

Hourly

$$L_L = \frac{12.46 (1.0) (7.9) (64) (108,808 \text{ gal/hr})}{532 (1000)}$$

= 1288.47 lbs/hr gasoline vapor to flare

$$L_L = \frac{12.46 (1.0) (130) (0.0105) (19,200)}{532 (1000)}$$

= 0.61 lbs/hr diesel to flare

The total hydrocarbons per hour to the burner would therefore be:

1288.47 lbs/hr as gasoline vapors  
0.61 lbs/hr as diesel vapors  
5.10 lbs/hr as propane  
1294.18 lbs/hr of hydrocarbons to burner

or 305 gal/hr at 4.24 lbs/gal as propane

Annual:

$$L_L = \frac{12.46 (1.0) (7.9) (64) (10.2 \times 10^6 \text{ Bbl/yr}) (42)}{532 (1000)}$$

= 5,072,978 lbs/yr gasoline vapor to flare

$$L_L = \frac{12.46 (1.0) (130) (0.0105) (1.8 \times 10^6 \text{ Bbl/yr}) (42)}{532 (1000)}$$

= 2417 lbs/yr diesel vapor to flare

Annual propane usage (maximum worse case) would be:

$$\frac{5.1 \text{ lbs}}{\text{hr}} \times \frac{8760 \text{ hrs.}}{\text{yr}} = \frac{44,676 \text{ lbs.}}{\text{yr}}$$

The total hydrocarbon per year to the burner would therefore be:

5,072,978 lbs/yr gasoline vapor  
 2,417 lbs/yr diesel vapor  
 44,676 lbs/yr propane  
 -----  
 5,120,071 lbs/yr hydrocarbons to flare

or 1,207,564 gal/yr at 4.24 lbs/gal as propane

Per AP-42 Table 1.5-1, the following results are obtained:

Pollutant	Emission Factor		
	lbs/1,000 gal	lbs/hr	tons/yr
TSP	.44	0.13	0.27
SO <sub>x</sub>	.9S*	1.38	2.72
NO <sub>x</sub>	12.4	3.78	7.49
CO <sub>x</sub>	3.1	0.95	1.87
Non-Methane Hydrocarbon	0.25	0.08	0.15

\*S = 5 gr/100 CF

In regard to lead emissions, our current fuel handled by the facility contain no lead. Therefore no emission calculations are necessary.

ATTACHMENT III

GATX anticipates the following to be the maximum flow rate:

$$Q_{\max} = \frac{600 \text{ GPM}}{\text{Loading Arm}} \times 12 \text{ loading arms} = 7200 \text{ GPM}$$

$$Q_{\max} = \frac{80.21 \text{ ft}^3/\text{min}}{\text{Loading Arm}} \times 12 = 962.52 \text{ ft}^3/\text{min}$$

With both burners in operation, the maximum anticipated velocity would be:

$$\text{Vel} = Q/A$$

$$\text{GATX Vmax} = \frac{962.52 \text{ ft}^3}{\text{min.}} \times \frac{1}{.27 \text{ ft}^2} \times \frac{1 \text{ min.}}{60 \text{ sec.}} = 59.41 \text{ ft/sec.}$$

The following equation is the maximum permitted velocity for air assisted flares:

$$H_T = \text{MJ/SCM}$$

$$H_T = \frac{400 \text{ BTU}}{\text{SCF}} \times \frac{\text{J}}{9.48 \times 10^{-4} \text{ BTU}} \times \frac{35.32 \text{ ft}}{\text{m}^3} = 14,902,953 \text{ J/m}^3$$

$$= 14.902953 \text{ MJ/m}^3$$

$$\text{Vmax} = 8.706 + (.7084 \times 14.902953) = \text{Reference 40 CFR Sec. 60.18 (f)(6)}$$

$$\text{Regulatory Limit} = 19.26 \text{ m/s}$$

$$= 19.26 \text{ m/s} \times 3.281 \text{ ft/m} = 63.20 \text{ ft/sec.}$$

## AIR POLLUTION

DER 17-2.100(186)

9/90

## PART I: DEFINITIONS

(186) "Solid Sulfur Storage and Handling Facility" – A facility designed and utilized for unloading, transferring, or storing elemental sulfur in pelletized form.

(187) "Solvent" – Organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents.

(188) "Solvent Metal Cleaning" – The process of cleaning soil from metal surfaces by cold cleaning or open top vapor degreasing or conveyORIZED degreasing.

(189) "Source" or "Stationary Source" – An identifiable piece of equipment (or the smallest integral combination of pieces of equipment, structures, and necessary appurtenances) that is used as a complete unit to accomplish a specific purpose or to produce a specific product; and which:

(a) Includes at least one activity or operation which is the point of origin of an air pollutant, in that it separates or allows the separation of a pollutant from process or other materials or accomplishes the conversion of all or part of various materials or fuels into a pollutant;

(b) Has at least one emission or discharge point; and

(c) Exists at or is designed to be operated as a unit at a fixed location, although parts of the source may move while the source is in operation.

(190) "Stack" – A pipe, duct, chimney, or other functionally equivalent device that confines and conveys air pollutants from a source or group of sources into the atmosphere through an emission point designed to discharge air pollutants into the atmosphere, but not including flares.

(191) "Stack in Existence" – A stack where the owner or operator had, as of a particular date:

(a) Begun, or caused to begin, a continuous program of physical on-site construction of the stack; or

(b) Entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed in a reasonable time.

(192) "Stagnant Atmospheric Condition" – The atmospheric and meteorological conditions which cause a reduction in the diffusion and dispersment of air pollutants in the atmosphere.

(193) "State Implementation Plan (SIP)" or "Implementation Plan" – The EPA approved plan which Section 110 of the Act requires a state to submit to the Administrator.

(194) "Standard Conditions" – A temperature of 68° Fahrenheit (20°C) and a pressure of 14.7 pounds per square inch absolute (760 mm Hg).



## PART II: GENERAL PROVISIONS

3. Smoke management in agricultural or silvicultural prescribed burning programs;
4. Episodic restrictions on residential woodburning and open burning; or
5. Techniques under Rule 17-2.270(2)(a)3. which increase final exhaust gas plume rise where the resulting allowable emissions of sulfur dioxide from the facility do not exceed 5,000 tons per year.

## (3) Good Engineering Practice.

(a) "Good engineering practice" (GEP) stack height means the greater of:

1. 65 meters, measured from the ground-level elevation at the base of the stack;
2. The stack height as determined below:
  - a. For stacks in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required under 40 CFR Parts 51 and 52,

$$H_g = 2.5H,$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;

- b. For all other stacks,

$$H_g = H + 1.5L, \text{ where}$$

$H_g$  = good engineering practice stack height, measured from the ground-level elevation at the base of the stack,

$H$  = height of nearby structure(s) measured from the ground-level elevation at the base of the stack,

$L$  = lesser dimension, height or projected width, of nearby structure(s)

provided that the EPA, Department, or local air program may require the use of a field study or fluid model to verify GEP stack height for the source; or

3. The height demonstrated by a fluid model or a field study approved by the EPA, Department, or local air program which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures, or nearby terrain features. If this height exceeds the height allowed by Rule 17-2.270(3)(a)1. or 2.,

## PART II: GENERAL PROVISIONS

FAC, the Department shall notify the public of the availability of the demonstration study and provide an opportunity for a public hearing on it.

(b) "Nearby" as used in Rule 17-2.270(3)(a), FAC, is defined for a specific structure or terrain feature and:

1. For purposes of applying Rule 17-2.270(3)(a)2., FAC, means that distance up to five times the lesser of the height or the width dimension of a structure, but not greater than 0.8 km (1/2 mile), and
2. For conducting demonstrations under Rule 17-2.270(3)(a)3., FAC, means not greater than 0.8 km (1/2 mile), except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height (Ht) of the feature, not to exceed two miles if such feature achieves a height (ht) 0.8 km from the stack that is at least 40 percent of the GEP stack height determined by the formula provided in Rule 17-2.270(3)(a)2.b., FAC, or 26 meters, whichever is greater, as measured from the ground-level elevation at the base of the stack. The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack.

(c) "Excessive concentration" is defined for the purpose of determining good engineering practice stack height under Rule 17-2.270(3)(a)3., FAC, and means:

1. For sources seeking credit for stack height exceeding that established under Rule 17-2.270(3)(a)2., FAC, a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard. For sources subject to the prevention of significant deterioration program (40 CFR 52.21 or Rule 17-2.500, FAC), an excessive concentration alternatively means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater than a prevention of significant deterioration increment. The allowable emission rate to be used in making demonstrations under this part shall be prescribed by the new source performance standard (40 CFR 60) that is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the Department, an alternative emission rate shall be established in consultation with the owner or operator;

## PART II: GENERAL PROVISIONS

2. For sources seeking credit after October 11, 1983, for increases in existing stack heights up to the heights established under Rule 17-2.270(3)(a)2., FAC, either:

a. A maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects as provided in Rule 17-2.270(3)(c)1., FAC, except that the emission rate specified by the State Implementation Plan (or, in the absence of such a limit, the actual emission rate) shall be used; or

b. The actual presence of a local nuisance caused by the existing stack, as determined by the Department; and

3. For sources seeking credit after January 12, 1979, for a stack height determined under Rule 17-2.270(3)(a)2., FAC, where the Department requires the use of a field study or fluid model to verify GEP stack height; for sources seeking stack height credit after November 9, 1984, based on the aerodynamic influence of cooling towers; and for sources seeking stack height credit after December 31, 1970, based on the aerodynamic influence of structures not adequately represented by the equations in Rule 17-2.270(3)(a)2., FAC: a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects that is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.

Specific Authority: 403.061, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, F.S.

History: New 11-1-81, Amended 8-26-81, 5-28-86, 10-20-86.

17-2.280 Severability. The provisions of this entire rule are severable. If one or more of the provisions should be invalidated, the Department intends that the other portions should become effective or remain in effect.

Specific Authority: 403.061, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, F.S.

History: New 11-1-81, Amended 8-26-81, Formerly 17-2.24.

17-2.290 Effective Date. The effective date of this rule shall be November 1, 1981.

Specific Authority: 403.061, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, F.S.

History: New 11-1-81, Amended 8-26-81.

## STATIONARY SOURCES

(50) ASTM D1835-86, Standard Specification for Liquefied Petroleum (LP) Gases, IBR approved for §§60.41b; 60.41c.

[60.17(a)(50) amended by 55 FR 37683, September 12, 1990]

(51) ASTM D3286-85, Standard Test Method for Gross Calorific Value of Coal and Coke by the Isothermal-Jacket Bomb Calorimeter, IBR approved for Appendix A to Part 60, Method 19.

(52) ASTM D4057-81, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for Appendix A to Part 60, Method 19.

(53) ASTM D4239-85, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, IBR approved for Appendix A to Part 60, Method 19.

[60.17 (a)(54) and (55) added by 53 FR 5872, February 26, 1988]

(54) ASTM D2016-74 (Reapproved 1983), Standard Test Methods for Moisture Content of Wood \* \* \* for Appendix A, Method 28.

(55) ASTM D4442-84, Standard Test Methods for Direct Moisture Content Measurement in Wood and Wood-base Materials \* \* \* for Appendix A, Method 28.

[60.17(a)(56) - (59) added by 54 FR 34026, August 17, 1989; amended by 55 FR 40175, October 2, 1990]

(56) ASTM D129-64 (Reapproved 1978), Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), IBR approved August 17, 1989 for §60.106(j)(2).

(57) ASTM D1552-83, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), IBR approved August 17, 1989, for §60.106(j)(2).

(58) ASTM D2622-87, Standard Test Method for Sulfur in Petroleum Products by X-Ray Spectrometry, IBR approved August 17, 1989, for §60.106(j)(2).

(59) ASTM D1266-87, Standard Test Method for Sulfur in Petroleum Products

(Lamp Method), IBR approved August 17, 1989, for §60.106(j)(2).

(b) The following material is available for purchase from the Association of Official Analytical Chemists, 1111 North 19th Street, Suite 210, Arlington, Virginia 22209.

(1) AOAC Method 9, Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12, IBR approved January 27, 1983 for §§60.204(d)(2), 60.214(d)(2), 60.224(d)(2), 60.234(d)(2), 60.244(f)(2).

(c) The following material is available for purchase from the American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20037.

[60.17(c) introductory paragraph and (1) amended by 52 FR 11428, April 8, 1987]

(1) API Publication 2517, Evaporation Loss from External Floating Roof Tanks, Second Edition, February 1980, IBR approved January 27, 1983 for §§60.111(i), 60.111a(f), 60.111a(f)(1) and 60.116b(e)(2)(i).

(d) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), Dunwoody Park, Atlanta, Georgia 30341.

(1) TAPPI Method T624 os-68, IBR approved January 27, 1983 for §60.285(d)(4).

(e) The following material is available for purchase from the Water Pollution Control Federation (WPCF), 2626 Pennsylvania Avenue NW., Washington, D.C. 20037.

(1) Method 209A, Total Residue Dried at 103-105 °C, in *Standard Methods for the Examination of Water and Wastewater*, 15th Edition, 1980, IBR approved February 25, 1985 for §60.683(b).

(2) [Reserved]

[60.17(e) added by 50 FR 7699, February 25, 1985]

[60.17 (f) and (g) added by 53 FR 5872, February 26, 1988]

(f) The following material is available for purchase from the following address: Underwriter's Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, Illinois 60062.

(1) UL 103, Sixth Edition revised as of September 3, 1986, Standard for Chimneys, Factory-built, Residential Type and Building Heating Appliance.

(g) The following material is available for purchase from the following address: West Coast Lumber Inspection Bureau, 6980 SW. Barnes Road, Portland, Oregon 97223.

(1) West Coast Lumber Standard Grading Rules No. 16, pages 5-21 and 90 and 91, September 3, 1970, revised 1984.

(h) The ASME *Power Test Codes* 4.1, 8 August 1972, is available for purchase from the following address: The American Society of Mechanical Engineers, 22 Law Drive, Box 2350, Fairfield, New Jersey 07007-2350.

[60.17(h) added by 54 FR 51824, December 18, 1989]

### §60.18 General control device requirements.

[60.18 added by 51 FR 2701, January 21, 1986]

(a) *Introduction.* This section contains requirements for control devices used to comply with applicable subparts of Part 60 and Part 61. The requirements are placed here for administrative convenience and only apply to facilities covered by subparts referring to this section.

(b) *Flares.* Paragraphs (c) through (f) apply to flares.

(c)(1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value



of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f).

(4)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in paragraph (b)(4)(ii) and (iii).

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the meth-

$$K = \text{Constant}, \quad 1.740 \times 10^{-7} \quad \left(\frac{1}{\text{ppm}}\right) \quad \left(\frac{\text{g mole}}{\text{scm}}\right) \quad \left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for  $\left(\frac{\text{g mole}}{\text{scm}}\right)$  is 20°C;

$C_i$  = Concentration of sample component  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 (Incorporated by reference as specified in § 60.17); and  
 $H_i$  = Net heat of combustion of sample component  $i$ , kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual exist velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity,  $V_{\text{max}}$ , for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10}(V_{\text{max}}) = (H_T + 28.8) / 31.7$$

$V_{\text{max}}$  = Maximum permitted velocity, M/sec  
 28.8 = Constant

ods specified in paragraph (f)(4), less than the velocity,  $V_{\text{max}}$ , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exist velocity less than the velocity,  $V_{\text{max}}$ , as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

31.7 = Constant

$H_T$  = The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity,  $V_{\text{max}}$ , for air-assisted flares shall be determined by the following equation.

$$V_{\text{max}} = 8.706 + 0.7084 (H_T)$$

$V_{\text{max}}$  = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

$H_T$  = The net heating value as determined in paragraph (f)(3).

### Subpart B—Adoption and Submittal of State Plans for Designated Facilities

#### § 60.20 Applicability.

The provisions of this subpart apply to States upon publication of a final guideline document under § 60.22(a).

#### § 60.21 Definitions.

Terms used but not defined in this subpart shall have the meaning given them in the Act and in Subpart A:

(f)(1) Reference Method 22 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

where:

$H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

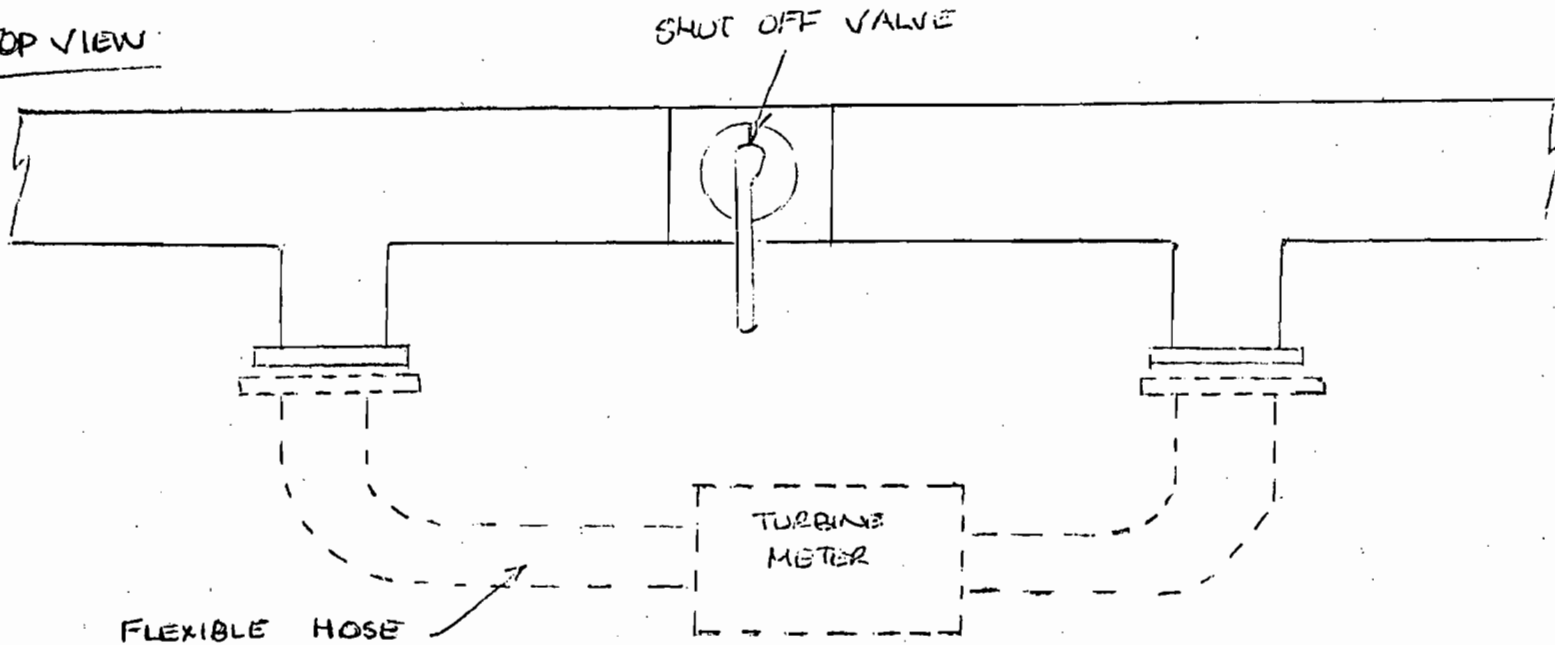
(a) "Designated pollutant" means any air pollutant, emissions of which are subject to a standard of performance for new stationary sources but for which air quality criteria have not been issued, and which is not included on a list published under section 108(a) or section 112(b)(1)(A) of the Act.

(b) "Designated facility" means any existing facility (see § 60.2(aa)) which emits a designated pollutant and which would be subject to a standard of performance for that pollutant if the existing facility were an affected facility (see § 60.2(e)).

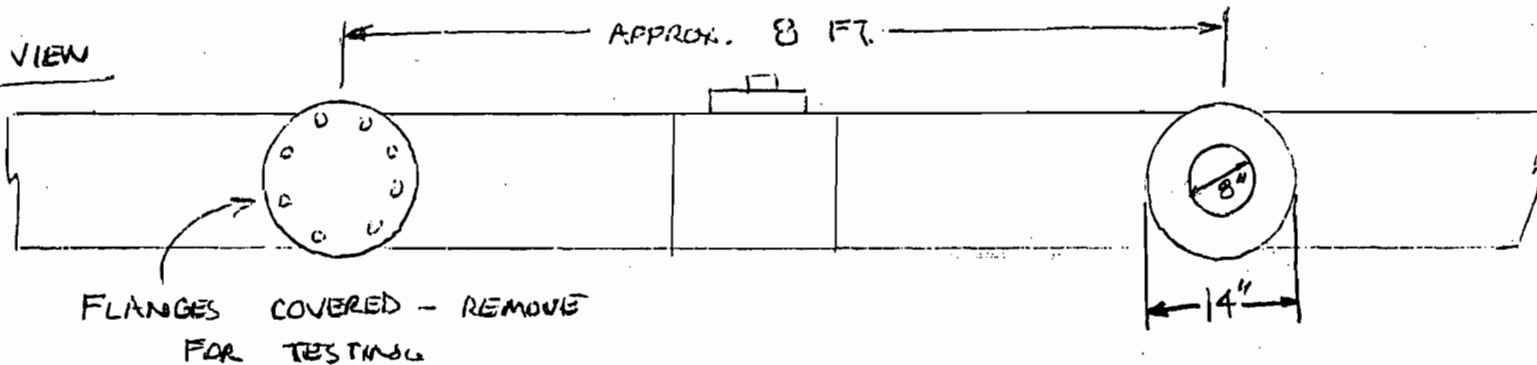
(c) "Plan" means a plan under section 111(d) of the Act which establishes emission standards for designated pollutants from designated facilities and provides for the implementation and enforcement of such emission standards.

(d) "Applicable plan" means the plan, or most recent revision thereof, which has been approved under § 60.27(b) or promulgated under § 60.27(d).

TOP VIEW



SIDE VIEW



FLANGES COVERED - REMOVE FOR TESTING

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

CONSULTING ENGINEERS and ENVIRONMENTAL SCIENTISTS

TURBINE METER BY-PASS SYSTEM  
FOR FLARE TESTING

1-25-88

CFF

P 256 396 238

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL

(See Reverse)

U.S.G.P.O. 1989-234-555

PS Form 3800, June 1985

Sort to	Tom Rigg
Street and No.	Central Fla Pipeline
P.O., State and ZIP Code	100 GATX Dr
Postage	Tampa, FL
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	11-16-90 AC 48-188406

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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

- 1.  Show to whom delivered, date, and addressee's address. (Extra charge)
- 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Tom Rigg mgr. of Fla. Operations Central Fla. Pipeline Corp. 100 GATX Dr. Tampa, FL 33605	4. Article Number P 256 396 238
5. Signature - Addressee X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature - Agent X [Signature]	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery 11/19/90	8. Addressee's Address (ONLY if requested and fee paid)



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

November 15, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Tom Rigg, Manager of Florida Operations  
Central Florida Pipeline Corporation  
100 GATX Drive  
Tampa, Florida 33605

Re: Orange County - A.P.  
Central Florida Pipeline Corporation  
TN6 and C4 Flare (AC 48-188406)

Dear Mr. Rigg:

The Department has received a permit application to construct a flare for the TN6 and C4 loading racks at the above referenced facility on October 17, 1990 and deemed it incomplete. Please provide the following information:

1. Please submit a process flow diagram showing all fill connections of the existing facility (Permit No. AO 48-126131) which must include the average and maximum loading rates from racks T1, T2, TX3, C4 and TN 6, along with updated process flow diagram showing the proposed changes.
2. List and quantify all pollutants including lead, NO<sub>x</sub>, CO, etc., from the combustor. Include assumptions and calculations.
3. Estimate the change (increase or decrease) in emissions expected to result from the change from VRU to combustor control.
4. According to the construction permit application, only two of the five loading racks vapors will be routed to the flare. Do you plan to route the vapors from the remaining three loading racks to the flare in future? Do you plan to load kerosene along with gasoline and diesel at the C4 loading rack?
5. What is the net heating value of the gas being combusted and the maximum velocity ( $V_{max}$ ) for the flare? As per Item H, Section III, the inlet gas flow rate is 1203 ACFM. Is this the maximum inlet gas flow you expect to be routed to the flare with both racks/all fill connections operating simultaneously? Include assumptions and calculations.

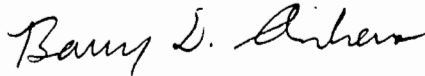


Mr. Tom Rigg  
Page 2 of 2

6. How is the presence of the flare pilot flame and gas flow rates monitored on a continuous basis?
7. What is the height of the nearest building/structure and how far is it from the flare stack?
8. To meet the 35 mg/l VOC emission standard, the flare should be enclosed so that appropriate compliance testing can be conducted. Please submit a stack drawing showing sampling locations.

Processing of this application will continue as soon as the above requested information has been received. If you have any questions, please contact Mirza P. Baig at 904-488-1344.

Sincerely,



*for* C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/MB/plm

c: Chuck Collins, Central Dist.  
S. L. Strehler, P.E.  
Dennis Nester, Orange County EPD



CENTRAL FLORIDA PIPELINE CORPORATION  
subsidiary of  
GATX TERMINALS CORPORATION

1904 Hemlock Avenue  
Tampa, FL 33605  
813-248-8361

October 15, 1990

Mr. C. H. Fancy  
Bureau Chief of Air Section  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Re: Central Florida Pipeline Corporation  
Modification to Existing Air Pollution Source  
FDER Permit No. AO48-126131

RECEIVED  
DER - MAIL ROOM  
1990 OCT 17 PM 12:20

Dear Mr. Fancy:

Central Florida Pipeline Corporation (CFPL), a subsidiary of GATX Terminals Corporation, proposes the modification of permit number AO48-126131 to include a John Zink model Flare Unit. Currently AO48-126131 permits the operation of five (5) truck loading racks with an associated vapor recovery unit. CFPL intends to route the vapor lines from loading racks TN6 and C4 to the new flare unit.

Provided for your review and approval are five (5) copies of the following:

- 1) Florida Department of Environmental Regulation Application to Modify Air Pollution Source (DER Form 17-1.202(1)).
- 2) Location Maps.
- 3) Flow Diagram.
- 4) Air Emissions Calculations and Emissions Summary.
- 5) Design details.

Please note the John Zink Company design specifications are stamped "Proprietary - To Be Maintained in Confidence." CFPL respectfully respects confidentiality under Section 403.111 Florida Statutes.

Mr. C. H. Fancy  
Oct. 15, 1990  
Page 2

A check for the application fee of \$1000 is also provided herewith.

Please contact me at (813) 248-2148 with any questions or concerns regarding this application.

Sincerely,  
CENTRAL FLORIDA PIPELINE CORPORATION

*Caren I. Lennie*

Caren I. Lennie  
Environmental Coordinator

CIL:mrr  
cl-modif

cc: *m. Baig*  
*C. Collins*  
*D. Nester*

Cgs The Citizens and Southern National Bank of Florida Hillsborough County

CENTRAL FLORIDA PIPELINE CORPORATION 02-90  
PHONE 813 248-2148  
1904 HEMLOCK AVENUE  
TAMPA, FL 33605

250

OCTOBER 12, 1996

63-614  
631

PAY ONE THOUSAND AND 00/100 DOLLARS \$ 1,000.00  
TO THE ORDER OF FLORIDA DEPT. OF ENVIRONMENTAL REGULATION

FOR PERMIT - FLARE UNIT

*E.R. Folan*

[REDACTED]

Modification to Existing Air Pollution Source  
FDER Permit No. A048-126131

RECEIVED  
ROOM  
PM 12:20

Dear Mr. Fancy:

Central Florida Pipeline Corporation (CFPL), a subsidiary of GATX Terminals Corporation, proposes the modification of permit number A048-126131 to include a John Zink model Flare Unit. Currently A048-126131 permits the operation of five (5) truck loading racks with an associated vapor recovery unit. CFPL intends to route the vapor lines from loading racks TN6 and C4 to the new flare unit.

Provided for your review and approval are five (5) copies of the following:

- 1) Florida Department of Environmental Regulation Application to Modify Air Pollution Source (DER Form 17-1.202(1)).
- 2) Location Maps.
- 3) Flow Diagram.
- 4) Air Emissions Calculations and Emissions Summary.
- 5) Design details.

Please note the John Zink Company design specifications are stamped "Proprietary - To Be Maintained in Confidence." CFPL respectfully respects confidentiality under Section 403.111 Florida Statutes.



Best Available Copy

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

#1500PD  
10-17-90  
Permit #151190

DER Form #	_____
Form Title	_____
Effective Date	_____
DER Application No.	_____ (Filed in by DER)

AC 48-188406

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Bulk Petroleum Terminal [ ] New<sup>1</sup> [X] Existing<sup>1</sup>

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: Central Florida Pipeline Corporation COUNTY: Orange

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) Flare

SOURCE LOCATION: Street 9919 Palm Avenue City Taft

UTM: East 17-463.8 North 3143.8

Latitude 28 ° 25 ' 19 "N Longitude 81 ° 22 ' 01 "W

APPLICANT NAME AND TITLE: Tom Rigg, Manager of Florida Operations

APPLICANT ADDRESS: 100 GATX Drive; Tampa, FL 33605

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of Central Florida Pipeline Corpora

I certify that the statements made in this application for a modification 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 permit establishment.

\*Attach letter of authorization

Signed: \_\_\_\_\_

Tom Rigg, Manager of Florida Operations  
Name and Title (Please Type)

Date: 10/15/90 Telephone No. (813) 248-2148

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 this permit application. There is reasonable assurance, in my professional judgment, that

<sup>1</sup> 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 Stan Strehler

Stanford L. Strehler

Name (Please Type)

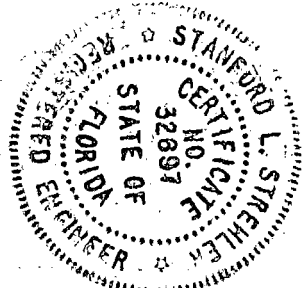
GATX Terminals Corporation

Company Name (Please Type)

100 GATX Drive; Tampa, FL 33605

Mailing Address (Please Type)

Florida Registration No. 0032697 Date: 10/15/90 Telephone No. (813) 248-2148



**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 project description.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction Upon Receipt Of Permit Completion of Construction Within One (1) Year Of Issuance

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.)

Flare Cost: \$60,000.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Existing operating permit A048-126131, issued 4/8/87, expires 8/24/92 covering loading racks: T1, T2, TX3, C4, TN6 and the existing VRU.

E. Requested permitted equipment operating time: hrs/day 24; days/wk 7; wks/yr 52; if power plant, hrs/yr N/A; 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?   | <u>No*</u> |
| a. If yes, has "offset" been applied?  | <u>No</u>  |
| b. If yes, has "Lowest Achievable Emission Rate" been applied?   | <u>No</u>  |
| c. If yes, list non-attainment pollutants.   | <u>N/A</u> |
| 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.                                       | <u>No</u>  |
| 3. Does the State "Prevention of Significant Deterioration" (PSD) requirement apply to this source? If yes, see Sections VI and VII. | <u>No</u>  |
| 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?   | <u>Yes</u> |
| 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?                                      | <u>No</u>  |
| H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source?  | <u>No*</u> |
| a. If yes, for what pollutants?  | _____      |
| b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.       |            |

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

\* Orange County has been designated an air quality maintenance area for ozone pursuant to Section 17-2.460(1)(b), Florida Administrative Code.





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)
John Zink Model	VOC	97.3%	N/A	Based On Manufacturer's
GV-LH-8400-2-				Guarantee of 35 mg/l

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Propane (pilot)	3.4 lbs/hr.	5.1 lbs/hr.	.11

\*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: negligible Percent Ash: negligible  
 Density: 4.24 lbs/gal Typical Percent Nitrogen: N/A  
 Heat Capacity: 21,560 BTU/lb 90,500 BTU/gal  
 Other Fuel Contaminants (which may cause air pollution): N/A

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average \_\_\_\_\_ Maximum \_\_\_\_\_

G. Indicate liquid or solid wastes generated and method of disposal.

N/A

H: Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 25 ft. Stack Diameter: 2.0 ft.  
 Gas Flow Rate: \* Inlet 1203 ACFM Outlet 18,469 ACFM Gas Exit Temperature: 1600 °F.  
 Water Vapor Content: 14.42 % Velocity: 77 FPS

\*Inlet and outlet ACFM

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) <sup>3</sup>	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: \_\_\_\_\_ ft. Stack Diameter: \_\_\_\_\_ Stack Temp. \_\_\_\_\_

Gas Flow Rate: \_\_\_\_\_ ACFM \_\_\_\_\_ DSCFM\* Velocity: \_\_\_\_\_ FPS

\*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device:  Cyclone  Wet Scrubber  Afterburner  
 Other (specify) \_\_\_\_\_

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)]  
See calculations.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. See calculation, manufacturer's guarantee.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).  
See calculations.
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.) See attachment.
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency). See calculations.
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. See attachment.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).  
See attached.
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.  
See attached.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation. Attached.
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. N/A

**SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY N/A**

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes  No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes  No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

- |                           |                          |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:*           | 4. Capital Costs:        |

\*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height:

ft.

b. Diameter:

ft.

c. Flow Rate:

ACFM

d. Temperature:

°F.

e. Velocity:

FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:<sup>1</sup>

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:<sup>2</sup>

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:<sup>1</sup>

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:<sup>2</sup>

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

<sup>1</sup>Explain method of determining efficiency.

<sup>2</sup>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:<sup>1</sup>

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:<sup>2</sup>

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:<sup>1</sup>

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:<sup>2</sup>

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:<sup>1</sup>

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:<sup>2</sup>

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

Explain method of determining efficiency.

Energy to be reported in units of electrical power - KWH design rate.



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 <sup>2</sup>	_____	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.



Professional Engineer in Florida (as required by Subsection 17-4.05(3), F. A. C.)

This is to certify that the engineering features of this air pollution control project have been examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgement, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed Stan Strehler

Date 10/15/90 Telephone No. (813) 248-2148

STANFORD L. STREHLER

Name

GATX TERMINALS CORPORATION

Company Name

100 GATX DRIVE, TAMPA, FL 33605

Mailing Address

Florida Registration No. 0032697



CENTRAL FLORIDA PIPELINE CORPORATION

PROJECT DESCRIPTION

To route the vapors from the existing loading rack TN6 (with six (6) gasoline and two (2) diesel fill connections) and existing loading rack CO4 (with eight (8) gasoline and two (3) diesel fill connections) to a new flare. Vapor originally went to an existing vapor recovery until permitted under A048-126131. The flare will meet the NSPS standard of 35 mg/l.

CENTRAL FLORIDA PIPELINE CORPORATION

Proposed Throughputs:

Assumes: 85% product is gasoline.

15% product is diesel.

Maximum Instantaneous:

9,000 gpm total as guaranteed by the manufacturer to meet the NSPS standard of 35 mg/l.

Note: The maximum instantaneous throughput can not be used in determining hourly emission rates and/or hourly throughputs.

Maximum Hourly:

$$4 \text{ bays} \times \frac{4 \text{ trucks}}{\text{hr. bay}} \times \frac{8,000 \text{ gal.}}{\text{truck}} = 128,000 \text{ gal/hr. total}$$

or 108,800 gal/hr. gasoline and 19,200 gal/hr. diesel

Maximum Annual:

Predicted to be 12,000,000 BBL/yr total or 10,200,000 BBL/yr gasoline and 1,800,000 BBL/yr diesel.

Existing Gasoline Loading Racks (TN6 and C4):

Vapors from these racks are to be routed to a new flare instead of the existing vapor recovery system.

CENTRAL FLORIDA PIPELINE CORPORATION

Maximum and Allowable Emission Rates:

Manufacturer's guarantee rate is the same as the NSPS allowable rate:

= 35 mg/l gasoline loaded

$$= \frac{35 \text{ mg}}{1} \times \frac{1 \text{ lb}}{453,514 \text{ mg}} \times \frac{3.785 \text{ l}}{\text{gal}}$$

=  $2.92 \times 10^{-4}$  lbs/gal gasoline

Actual Emissions (From Gasoline):

$$L_L \text{ (hourly)} = 2.92 \times 10^{-4} \times 108,800 \text{ gallons/hr} = 31.77 \text{ lbs/hr.}$$

$$L_L \text{ (annual)} = 2.92 \times 10^{-4} \text{ lbs/gal.} \times 10.2 \times 10^6 \text{ BBL/yr} \\ \times 42 \text{ gal/1 BBL} \times 1 \text{ ton/2,000 lbs.} \\ = 62.55 \text{ tons per year}$$

Air Emission Calculations based on AP-42, Section 4.4 dated September 1985.

Equation:

$$L_L = 12.46 \frac{S P M}{T} \times \left(1 - \frac{\text{eff.}}{100}\right) \times Q$$

Where:

$L_L$  = Loading Loss (lb/1,000 gal)

M = Molecular Weight (lb/lb-mole)

P = True Vapor Pressure (psia)

T = Temperature ( $^{\circ}$ R)

S = Saturation Factor (Table 4.4-1)

Eff. = Eff. Of Control Device (%)

Q = Throughput

CENTRAL FLORIDA PIPELINE CORPORATION

Uncontrolled Emissions (From Gasoline):

$$L_L \text{ (uncontrolled)} = \frac{12.46 (1.0) (7.9) (64) (10.2 \times 10^6 \text{ BBL/yr}) (42)}{532 (1000) (2000)}$$
$$= 2536.49 \text{ TPY}$$

$$\text{Eff.} = \frac{(L_L \text{ (uncontrolled)}) - L_L \text{ (controlled)}}{L_L \text{ (uncontrolled)}} \times 100$$
$$= \frac{2536.49 - 62.55}{2536.49} (100) = 97.53\%$$

Diesel emissions based on previously determined efficiency of 97.53%:

$$L_L \text{ (hourly)} = \frac{12.46 (1.0) (130) (0.0105) (19,200)}{532 (1000)} (1 - .9753)$$
$$= 0.0152 \text{ lbs/hr}$$

$$L_L \text{ (annual)} = \frac{12.46 (1.0) (130) (.0105) (1.8 \times 10^6 \text{ BBL/yr}) ((42) (1 - .9753))}{532 (1000) (2000)}$$

$$(1 - .9753) = 0.0298 \text{ TPY}$$

CENTRAL FLORIDA PIPELINE CORPORATION

Total Emissions Projected:

<u>Product</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Gasoline	31.77	62.55
Diesel	0.15	0.0298
Total	<u>31.92</u>	<u>62.58</u>

Gas Flow Rate - Maximum:

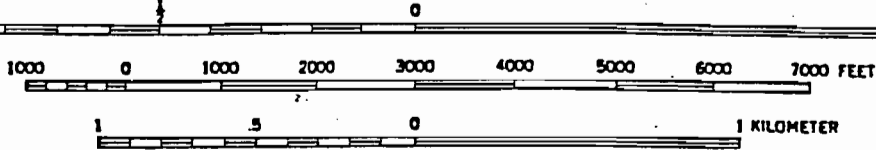
$$\text{Inlet: } \frac{9,000 \text{ gal.}}{\text{min.}} \times \frac{\text{ft.}^3}{7.48 \text{ gal.}} = 1,203 \text{ ACFM}$$

$$\text{Outlet: } \frac{9,000 \text{ gal.}}{\text{min.}} \times \frac{\text{ft.}^3}{7.48 \text{ gal.}} \times 15.35^* = 18,469 \text{ ACFM}$$

\*Combustion air requirements per manufacturer.

Best Available Copy

SCALE 1:50,000



# PINE CASTLE, FLA.

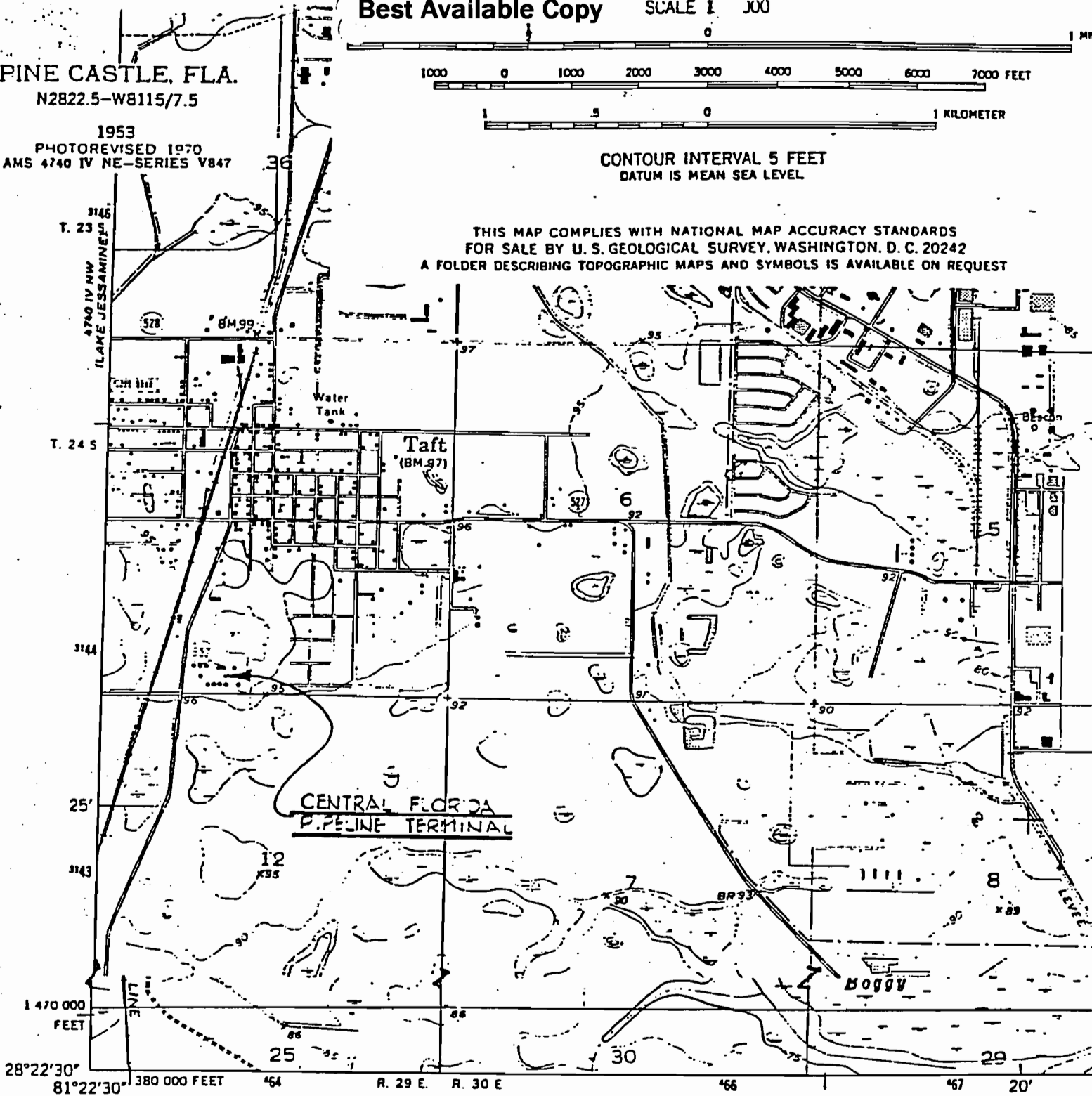
N2822.5-W8115/7.5

1953

PHOTOREVISED 1970  
AMS 4740 IV NE-SERIES V847

CONTOUR INTERVAL 5 FEET  
DATUM IS MEAN SEA LEVEL

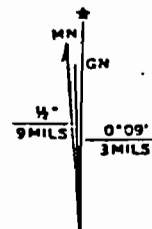
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



Mapped, edited, and published by the Geological Survey  
Control by USGS, USC&GS, and USCE

Culture and drainage in part compiled by U. S. Corps of Engineers  
from aerial photographs taken 1950. Topography by plane-table  
surveys 1953

Polyconic projection. 1927 North American datum  
10,000-foot grid based on Florida coordinate system,  
east zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 17, shown in blue

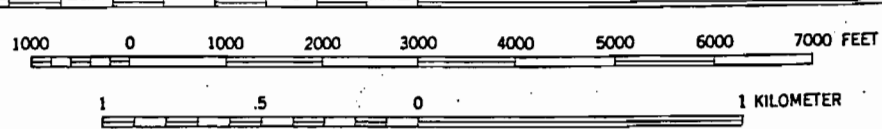
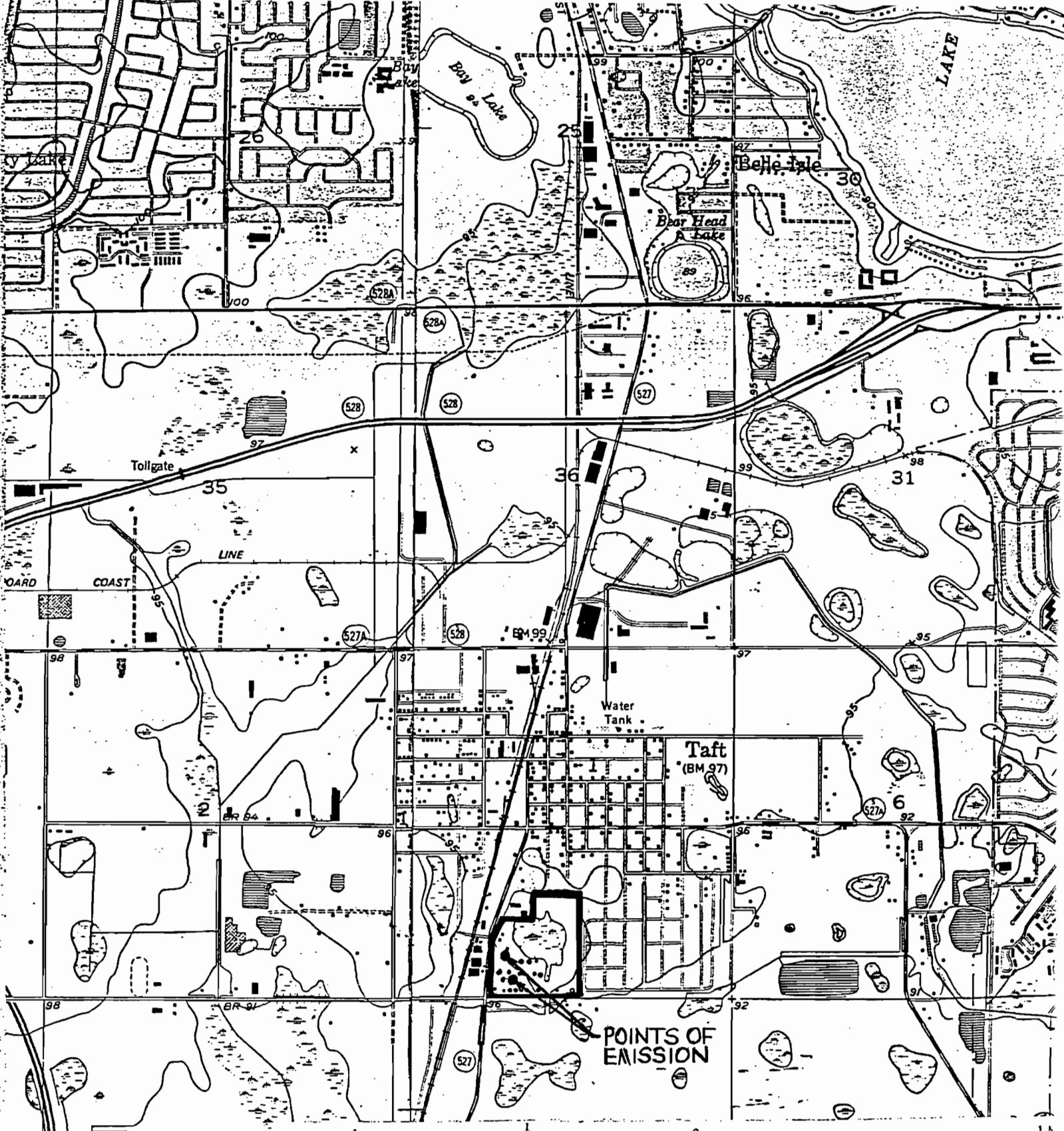


UTM GRID AND 1970 MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

(MISSING)  
4740 IV SW



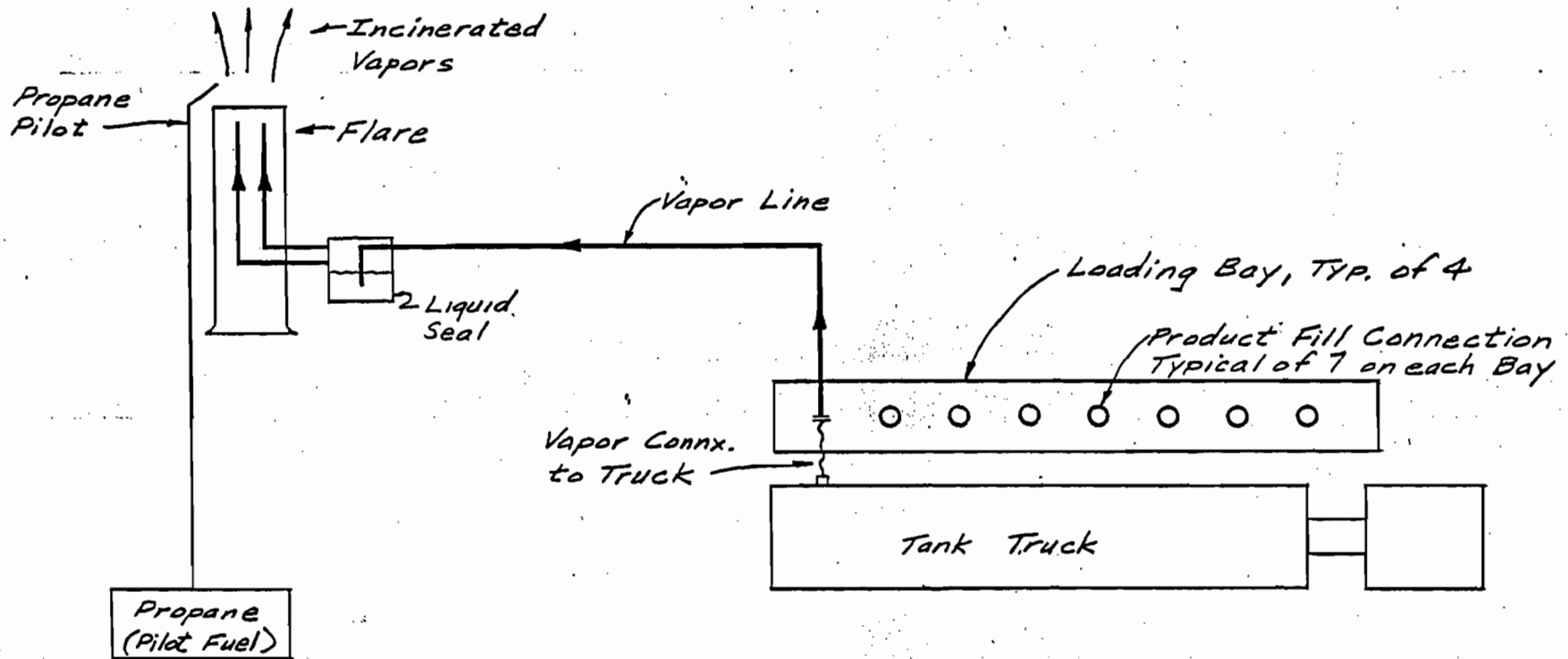




CONTOUR INTERVAL 5 FEET  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

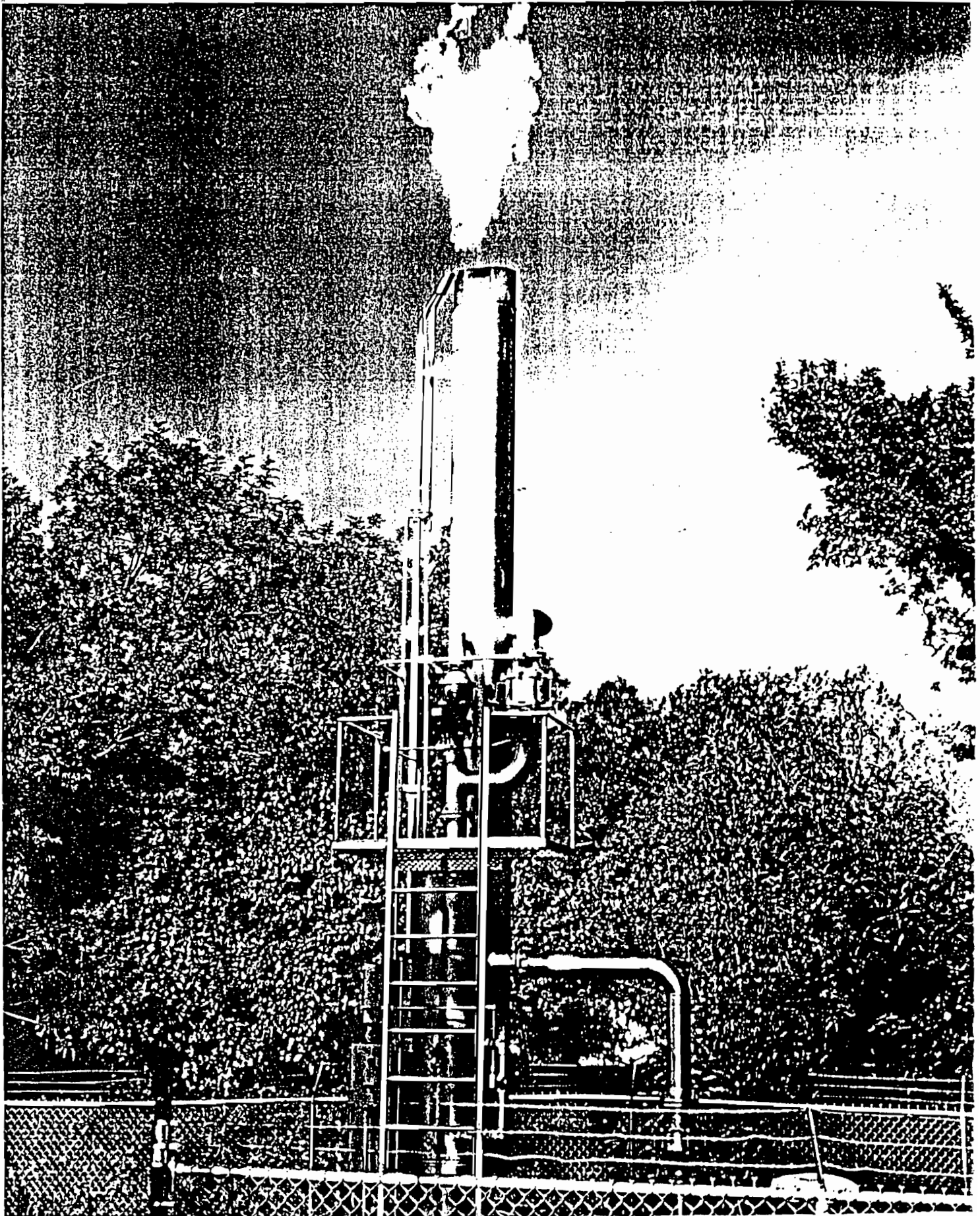
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
 FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 221  
 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST





FLOW DIAGRAM  
TRUCK LOADING RACK  
WITH FLARE  
TAFT - TERMINAL

5/25/88  
DOT





**JOHN ZINK  
COMPANY**

**GATX** APR 16 1990  
International Headquarters  
P.O. Box 702220  
Tulsa, Oklahoma 74170  
(918) 747-1371

April 9, 1990

GATX Terminals  
100 GATX Drive  
Tampa, FL 33605

Attention: Mr. Rick Rykosky

Reference: John Zink File G9002-072NE-1

Dear Mr. Rykosky:

Per our conversation on Tuesday, April 3, 1990, I am forwarding a proposal for a John Zink Model GV-LH-12,600-2 Gasoline Vapor Combustion System. Utilizing the GV-LH design, you can expect smokeless combustion of your gasoline/air vapor up to an instantaneous loading rate of 12,600 gpm.

In our March 6, 1990 proposal, John Zink proposed a Model GV-LH-8400-2 Gasoline Vapor Combustion Unit. Please be advised that this model can handle up to 9,000 gpm of product loading. John Zink will guarantee the performance of our model GV-LH-8400-2 for a maximum truck loading rate of 9,000 gpm. John Zink guarantees the VOC emissions from the proposed Vapor Combustion Unit not to exceed 35 milligrams per liter of product loaded. The model GV-LH-8400-2 Vapor Combustion Unit will meet the requirements of the Federal Regulation of 40 CFR 60.18 as they pertain to flares.

The enclosed proposal on our model GV-LH-12,600 is self explanatory. After you have had an opportunity to review the attached information, I would appreciate an opportunity to meet with you to answer any questions and review the proposal in more detail. For the interim, if you have any questions, please feel free to contact me at 918-592-4732.

Yours truly,

JOHN ZINK COMPANY

*Bill Matthes (aka)*

Bill Matthes

Sr. Application Engineer

Enclosure

cc: H. Dinsmore  
N. Tuttle  
J. Holman  
John Zink/N.E.

L:GATX49

**PROPOSAL**

**FOR**

**VAPOR COMBUSTION UNIT**

**MODEL NO. GV-LH-8400-2**

**OPEN FLAME UNIT**

Prepared For

**GATX TERMINALS**

Taft, Florida

**JOHN ZINK FILE NO. G9002-072 NE**

by

**JOHN ZINK COMPANY**

Tulsa, Oklahoma

Vapor Control Group

March 6, 1990