

Best Available Copy

Check Sheet

Company Name: Refuse Services, Inc.  
Permit Number: AC16-154472  
PSD Number: \_\_\_\_\_  
Permit Engineer: \_\_\_\_\_

Cross References:

- ☐
- ☐
- ☐

**Application:**

- ☒ Initial Application
- ☒ Incompleteness Letters
- ☒ Responses
- ☐ Waiver of Department Action
- ☐ Department Response
- ☐ Other

**Intent:**

- ☒ Intent to Issue
- ☒ Notice of Intent to Issue
- ☒ Technical Evaluation
- ☒ BACT or LAER Determination
- ☒ Unsigned Permit
- ☐ Correspondence with:

- ☐ EPA
- ☐ Park Services
- ☐ Other

- ☒ Proof of Publication
- ☐ Petitions - (Related to extensions, hearings, etc.)
- ☐ Waiver of Department Action
- ☐ Other

**Final**

**Determination:**

- ☒ Final Determination
- ☒ Signed Permit
- ☒ BACT or LAER Determination
- ☐ Other

**Post Permit Correspondence:**

- ☐ Extensions/Amendments/Modifications
- ☐ Other

**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. Jim O'Connor Regional Manager Refuse Services, Inc. 4710 Dignan St. Jacksonville, FL 32205	4. Article Number P 274 007 563 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 Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .
5. Signature — Address <b>X</b>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature — Agent <b>X</b> <i>[Signature]</i>	
7. Date of Delivery 1-26-89	

PS Form 3811, Mar. 1988      \* U.S.G.P.O. 1988-212-865      DOMESTIC RETURN RECEIPT

P 274 007 563

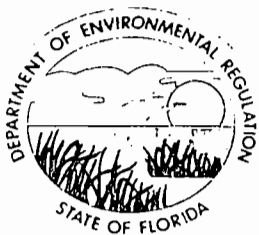
**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

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

Sent to	
Mr. Jim O'Connor, Refuse Services	
Street and No.	
4710 Dignan St.	
P.O., State and ZIP Code	
Jacksonville, FL 32205	
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	
Permit: AC 16-154472	
Mailed: 1-24-89	

PS Form 3800, June 1985



## Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

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

Mr. Jim O'Connor  
Regional Manager  
Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, Florida 32205

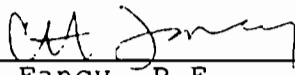
January 24, 1989

Enclosed is a permit No. AC 16-154472 for Refuse Services, Inc. to construct a utility flare at the Sunbeam Road Landfill in Jacksonville, Duval County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this permit has the right to seek judicial review of this 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.  
Deputy Chief  
Bureau of Air Quality  
Management

Copy furnished to:

W. Stewart, NE District  
D. Hall, BESD  
H. Bush, Jr., P.E.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on January 24, 1989.

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.

Martha Jane Wise January 24, 1989  
Clerk Date

Final Determination

Refuse Services, Inc.  
Jacksonville, Duval County, Florida

Permit No. AC 16-154472  
Utility Flare

Division of Air Resources Management  
Bureau of Air Quality Management  
Central Air Permitting

January 20, 1989

## Final Determination

Refuse Services, Inc.'s application for a permit to construct/install a McGill Environmental Services, Inc., utility flare, Model BFT-10 at the Sunbeam Road landfill in Jacksonville, Duval County, Florida, has been reviewed by the Bureau of Air Quality Management.

Public Notice of the Department's Intent to Issue the construction permit was published in the Florida Times-Union on November 10, 1988.

Copies of the Preliminary Determination have been available for public inspection at the Bio-Environmental Services Division of Air & Water Pollution Control (BESD) office in Jacksonville and the Department's Bureau of Air Quality Management in Tallahassee.

Comments were received from Ronald L. Roberson, Associate Engineer, for the BESD office in Jacksonville.

The Bureau has considered the comments and agrees to modify the specific conditions as requested. Three new conditions will be added and the remaining conditions will be renumbered in the final permit as follows:

Specific Condition (SC) No. 5 will be renumbered Specific Condition (SC) No. 8.

SC No. 6 will be renumbered SC No. 9.

SC No. 7 will be renumbered SC No. 10.

New SC No. 5

Pursuant to Rule 17-2.620(2), F.A.C. and Chapter 376, City Ordinance, objectionable odors are prohibited.

New SC No. 6

An operation and maintenance plan shall be submitted to the BESD office to assure that the system operates efficiently.

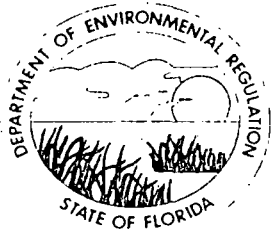
New SC No. 7

The flare must be in operation when the electric generators (AC 16-11941 Ring Power Corporation) are down for maintenance, shutdown, repair, or for any other extended period.

The final action of the Department will be to issue the permit with the changes described above.

Attachment to be Incorporated:

Mr. Ronald L. Roberson's letter dated November 9, 1988.



## *Florida Department of Environmental Regulation*

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

**PERMITTEE:**  
Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, FL 32205

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989  
County: Duval  
Latitude/Longitude: 30° 11' 53"N  
80° 36' 00"W  
Project: Flare Model Number  
BFT-10 McGill Environmental Systems,  
Inc.

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

For the construction of an utility flare to control odor emissions. Model No. BFT-10, McGill Environmental Systems, Inc. This facility is located in Jacksonville, Duval County, Florida.

Construction shall be in accordance with the permit application and plans, documents, and reference material submitted unless otherwise stated in the Preliminary Determination and Technical Evaluation or the General and Specific Conditions herein.

### Attachments:

1. Application to Operate/Construct Air Pollution Sources, DER Form 17-202(1), received on August 15, 1988.
2. Department's letter dated August 25, 1988.
3. Refuse Service Inc.'s letter dated September 7, 1988.
4. Mr. Ronald L. Roberson's letter dated November 9, 1988.



PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

GENERAL CONDITIONS:

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

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

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

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

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

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

GENERAL CONDITIONS:

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

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

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

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

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

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

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

**GENERAL CONDITIONS:**

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

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

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

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

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

13. This permit also constitutes:

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

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

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

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

**GENERAL CONDITIONS:**

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

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

**SPECIFIC CONDITIONS:**

- 1. This source shall be allowed to operate continuously (8760 hours/year).
- 2. Opacity shall not exceed 5%.
- 3. This source shall meet applicable specification requirements (60.18) of the general provisions 40 CFR 60, General Control Device Requirements.

PERMITTEE:  
Refuse Services, Inc.

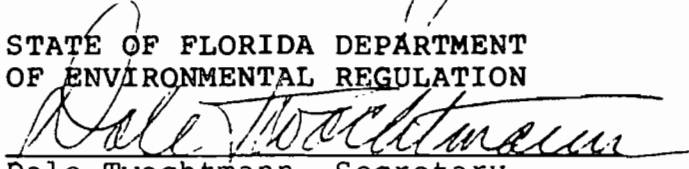
Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

**SPECIFIC CONDITIONS:**

4. Before this construction permit expires, this source shall be tested for visible emissions (VE). Compliance with the opacity limitation shall be determined by EPA reference Method 9, Visual Determination of Opacity of Emissions from Stationary Sources. The BESD's office shall be notified at least 15 days in advance of the compliance test.
5. Pursuant to Rule 17-2.620(2), F.A.C. and Chapter 376, City Ordinance, objectionable odors are prohibited.
6. An operation and maintenance plan shall be submitted to the BESD office to assure that the system operates efficiently.
7. The flare must be in operation when the electric generators (AC 16-11941 Ring Power Corporation) are down for maintenance, or shutdown, repair, or for any other extended period.
8. Upon obtaining a permit to operate, the permittee shall be required to submit annual reports on the actual parameters (flow rate, combustion efficiency, pressure drop, flame length, net heating value of gas, velocity, etc.) and emissions from this source. Annual reports shall be sent to the Bio-Environmental Services Division (BESD) in Jacksonville.
9. The permittee may request that this construction permit be extended. Such a request shall be submitted to the BAQM prior to 60 days before the expiration of the permit (F.A.C. 17-4.090).
10. An application for an operation permit must be submitted to the Bio-Environmental Services Division (BESD) in Jacksonville at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit an application, the appropriate fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test results as required by this permit (F.A.C. 17-4.220).

Issued this 20 day of Jan,  
1989

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
Dale Twachtman, Secretary

Microcoulometry, IBR approved July 31, 1984 for § 60.335(b)(2).

(45) ASTM D2584-68, Standard Test Method for Ignition Loss of Cured Reinforced Resins, IBR approved February 25, 1985 for § 60.685(e).

(46) ASTM D1946-77, Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 60.18(f).

(47) ASTM D3431-80, Standard Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons (microcoulometric method), IBR approved for § 60.49(e).

(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 NW., Washington, DC 20005.

(1) API Publication 2517, Evaporation Loss from External Floating Roof Tanks, Second Edition, February 1980, IBR approved January 27, 1983, for §§ 60.110(b), 60.111a(f), 60.111a(f)(1) and 60.116(b)(2)(ii).

(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, DC 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 20, 1985 for § 60.683(b).

[48 FR 3735, Jan. 27, 1983, as amended at 49 FR 48335, Oct. 18, 1983; 49 FR 22608, May 30, 1984; 49 FR 30672, July 31, 1984; 49 FR 38233, Sept. 27, 1984; 50 FR 7699, Feb. 23, 1985; 50 FR 26126, June 24, 1985; 51 FR 2702, Jan. 21, 1986; 51 FR 42704, Nov. 23, 1986; 52 FR 11429, Apr. 8, 1987]

~~Each General control device requires~~

(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 non-assisted. 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 paragraphs (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 methods specified in paragraph (f)(4), less than the velocity,  $V_{max}$ , 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 exit 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.

(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;

## § 60.20

40 CFR Ch. I (7-1-87 Edition)

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

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 D1945-77 (Incorporated by reference as specified in § 60.17); and  
 $E_i$  = 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 exit 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.

$$\log_{10}(V_{max}) = (H_f - 28.8)/31.7$$

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

28.8 = Constant

31.7 = Constant

$H_f$  = 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.

$$V_{max} = 8.706 - 0.7084 (H_f)$$

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

8.706 = Constant

0.7084 = Constant

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

FR 2701, Jan. 21, 1935

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

SOURCE: 40 FR 53346, Nov. 17, 1975, unless otherwise noted.

#### § 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:

(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).

(e) "Emission guideline" means a guideline set forth in Subpart C of this part, or in a final guideline document published under § 60.22(a), which reflects the degree of emission reduction achievable through the application of the best system of emission reduction which (taking into account the cost of such reduction) the Administrator has determined has been adequately demonstrated for designated facilities.

#### Environmental Protection

(f) "Emission standard" means a legally enforceable regulation which sets forth an allowable rate of emissions into the atmosphere from any equipment specification for air pollution emissions.

(g) "Compliance schedule" means a legally enforceable schedule which sets a date or dates by which a category of sources must meet specific emission standards in a plan or with any progress to achieve such.

(h) "Increments of progress" means steps to achieve compliance which must be taken by an owner of a designated facility.

(1) Submittal of a final plan for the designated facility for the designated pollutant.

(2) Awarding of contracts for emission control systems, modifications, or issuance of the purchase of computer equipment to accomplish emission control modification.

(3) Initiation of on-site inspection or installation of emission control equipment or process control.

(4) Completion of construction or installation of emission control equipment or process control.

(5) Final compliance.

(i) "Region" means a designated control region designation under section 107 of the Act and Part 81 of this chapter.

(j) "Local agency" means a governmental agency.

#### § 60.22 Publication of emission standards, emission guidelines, and compliance times.

(a) After promulgation of performance standards for a designated pollutant from designated facilities, the Administrator shall publish a draft guideline document containing information pertinent to the designated pollutant from designated facilities. Notice of availability of the draft guideline will be published in the FEDERAL REGISTER, and public comments will be invited. A final guideline document will be published in the FEDERAL REGISTER and notice of its availability will be published in the FEDERAL REGISTER.



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: Dale Twachtmann

for FROM: Steve Smallwood *[Signature]*

SUBJ: Approval of Construction Permit No. AC 16-154472  
Refuse Services, Inc.

DATE: January 20, 1989

Attached for your approval and signature is a permit prepared by Central Air Permitting for the above mentioned company to construct a utility flare to control odor emissions at the Sunbeam Road Landfill in Jacksonville, Duval County, Florida.

Comments received during the public notice period were addressed in the Final Determination.

Day 90, after which this permit will be issued by default, is March 5, 1989.

I recommend your approval and signature.

SS/TH/s

attachments

*Please call  
Patty Adams  
when signed  
8-1344*

**RECEIVED**

JAN 20: 1989

Office of the Secretary



Waste Management of Jacksonville  
4710 Dignan Street, P.O. Box 6987  
Jacksonville, Florida 32236  
904/388-8561

PM  
1-6-89  
Jacksonville, FL



*file copy*  
A Waste Management Company

January 6, 1989

Ms. Teresa Heron  
Air Quality Section  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

RE: Sunbeam Landfill, Notice of Intent Certification to Install  
Utility Flare

Dear Ms. Heron:

This is a duplicate copy of the certified legal notice given to Wiley Barbour during week of 11-14-88. This Notice of Intent was published on 11-10-88 concerning permit to construct/install utility flare.

If you have any questions or need any information, please call.

Sincerely,

*Billy Purvis/odd*

Billy Purvis  
Landfill Operations Manager  
Refuse Services, Inc.

BP/odd

Enclosure

*copied: Teresa Heron*

RECEIVED

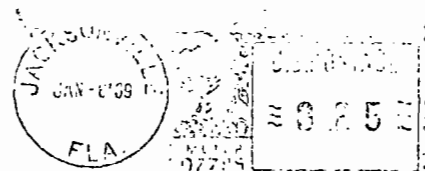
JAN 09 1989

DER-BAQM

Waste Management of Jacksonville  
4710 Dignan Street, P.O. Box 6987  
Jacksonville, Florida 32236



A Waste Management Company



Ms. Teresa Heron  
Air Quality Section  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

Printed on recycled paper.



# FLORIDA PUBLISHING COMPANY

Publisher

JACKSONVILLE, DUVAL COUNTY, FLORIDA

STATE OF FLORIDA }  
COUNTY OF DUVAL }

Before the undersigned authority personally appeared Pam Lee

who on oath says that he is

Retail Advertising Assistant

of The Florida Times-Union,

a daily newspaper published at Jacksonville in Duval County, Florida; that the  
attached copy of advertisement, being a \_\_\_\_\_

Legal Notice

in the matter of Notice of Intent

in the \_\_\_\_\_ Court,

was published in THE FLORIDA TIMES-UNION in the issues of \_\_\_\_\_

November 10, 1988

Affiant further says that the said The Florida Times-Union is a newspaper published at Jacksonville, said Duval County, Florida, and that the said newspaper has heretofore been continuously published in said Duval County, Florida, The Florida Times-Union each day, has been entered as second class mail matter at the postoffice in Jacksonville, in said Duval County, Florida, for a period of one year next preceeding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in said newspaper.

Sworn to and subscribed before me

this 10th day of  
November A.D. 19 88

[Signature]

Notary Public,  
State of Florida at Large.

My Commission Expires \_\_\_\_\_

NOTARY PUBLIC, STATE OF FLORIDA

DA 444

State of Florida  
Department of Environmental Regulation

Notice of Intent  
The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Refuse Services, Inc., to construct/install a McGill Environmental Services, Inc. utility flare, Model BFT-10 at the Sunbeam Road landfill gas in Jacksonville, Duval County, Florida. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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

Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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

Dept. of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400  
Dept. of Environmental Regulation  
Bio-Environmental Services Division  
Air & Water Pollution Control  
421 West Church Street  
Jacksonville, Florida 32202-4111

Any person may send written comments on the proposed action to Mr. Bill Thomas 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.

RECEIVED

JAN 09 1989

DER-BAQM

PM  
11-14-88  
Jacksonville, FL

*file copy*

**DEPARTMENT OF HEALTH, WELFARE  
& BIO-ENVIRONMENTAL SERVICES**  
Bio-Environmental Services Division  
Air and Water Pollution Control

**RECEIVED**



November 9, 1988

NOV 15 1988

DER-000000

Mr. Bill Thomas  
Department of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**Re: INTENT TO ISSUE - DER File No. AC16-154472**

Dear Mr. Thomas:

The Bio-Environmental Services Division (BESD) has reviewed the Department of Environmental Regulation's (DER) proposed action of Intent to Issue, and wishes to express the following concerns:

1. BESD recommends that a specific condition be included that prohibits the creation of objectionable odors pursuant to Section 17-2.620(2), Florida Administrative Code, and Chapter 376, City Ordinance.
2. An operation and maintenance plan is recommended to assure that the system operates efficiently.
3. BESD recommends that a specific condition specify that the flare must be in operation when the electric generators (AC16-11941 Ring Power Corporation) are down for maintenance or repair.

Please contact the undersigned if further information is required.

Very truly yours,

*Ronald L. Roberson*

Ronald L. Roberson  
Associate Engineer

RLR/rlj

cc: Mr. Bill Stewart, P.E., DER  
BESD Air Permitting File  
BESD File 2010-D (new) Landfill Flare  
[Disc: 1/11]

*Copied: Teresa Heron  
CHF/BT*

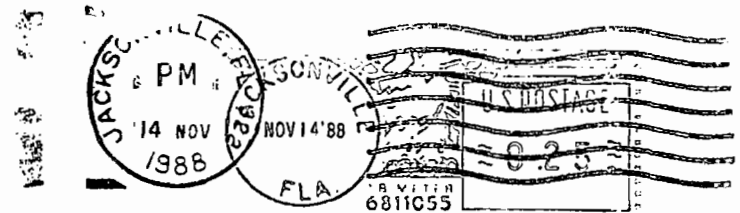


AREA CODE 904 / 630-3666 — NIGHTS/WEEKENDS - 630-3685  
421 WEST CHURCH STREET, SUITE 412 / JACKSONVILLE, FLORIDA 32202-4111

**BIO-ENVIRONMENTAL SERVICES**  
Air and Water Pollution Control  
421 W. Church Street  
Jacksonville, Florida 32202-4111



Mr. Bill Thomas  
Department of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400







## 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

October 24, 1988

CERTIFIED MAIL-RETURN RECEIPT REQUESTED


Mr. Jim O'Connor, Regional Manager  
Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, Florida 32205

Dear Mr. O'Connor:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for Refuse Services, Inc. to construct a McGill Environmental Systems, Inc. utility flare, Model BFT-10 at the Sunbean Road landfill in Jacksonville, Duval County, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

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

CHF/TH/s

Attachments

cc: Darrel T. Hall, BESD  
Harvey H. Bush, Jr., P.E.

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of  
Application for Permit by:

Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, Florida 32205

---

DER File No. AC 16-154472

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue a 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, Refuse Services, Inc., applied on July 25, 1988, to the Department of Environmental Regulation for a permit to construct a McGill Environmental Services, Inc. utility flare, Model BFT-10 at the Sunbean Road landfill gas in Jacksonville, Duval County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit was needed 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 Proposed Agency Action on permit applications. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

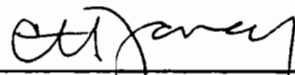
The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S. A person whose substantial interests are affected by the



Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. Petitions must comply with the requirements of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copy enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. 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, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions will be dismissed.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

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

Copies furnished to:

Darrel T. Hall, BESD  
Harvey H. Bush, Jr., P.E.

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

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.
- (2) All petitions filed under these rules should contain:
  - (a) The name and address of each agency affected and each agency's file or identification number, if known;
  - (b) The name and address of the petitioner or petitioners;
  - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
  - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
  - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
  - (f) A demand for the relief to which the petitioner deems himself entitled; and
  - (g) Such other information which the petitioner contends is material.

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 10/25/88.

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.

Judy Rogers  
Clerk

10/25/88  
Date

State of Florida  
Department of Environmental Regulation  
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Refuse Services, Inc., to construct/install a McGill Environmental Services, Inc. utility flare, Model BFT-10 at the Sunbean Road landfill gas in Jacksonville, Duval County, Florida. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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

Dept. of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation  
Bio-Environmental Services Division  
Air & Water Pollution Control  
421 West Church Street  
Jacksonville, Florida 32202-4111

Any person may send written comments on the proposed action to Mr. Bill Thomas 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

Refuse Services, Inc.

Permit No. AC 16-154472  
Landfill Gas Utility Flare

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

October 21, 1988

I. NAME AND ADDRESS OF APPLICANT

Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, Florida 32205

II. REVIEWING AND PROCESS SCHEDULE

Date of Receipt of Application: August 25, 1988  
Completeness Review: Department's Letter of August 25, 1988

Application Completeness Day: September 7, 1988

III. FACILITY LOCATION

The proposed source is located at Sunbeam Road in Jacksonville, Florida. The latitude and longitude coordinates are 30°11'53" North and 80°36'00" West.

III.2 Standard Industrial Classification Code (SIC)

This facility is classified as follows:

Major Group No. 49 - Electric, Gas, and Sanitary Service  
Industry Group No. 495 - Sanitary Services  
Industry 4953 - Refuse Systems

III.3 Facility Category

Refuse Services, Inc. is a major facility. Emissions of carbon monoxide will be 107.7 tons per year as a result of this project.

IV. PROJECT DESCRIPTION

This is a landfill gas disposal project. Odorous components of the landfill gas will be reduced by thermal reduction process created and controlled by the utility flare specifically designed for disposal of landfill gas. This flare will be used any time the electric generators are down for maintenance or repair.

V. RULE APPLICABILITY

This project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes and Chapter 17-2, F.A.C.

This source site is located within the ozone nonattainment area of Duval County, Rule 17-2.410, F.A.C.

This project, a flare system, will be permitted pursuant to Rule 17-2.520, F.A.C., Sources not Subject to Prevention of Significant Deterioration or Nonattainment Requirements.

The proposed source shall comply with Rule 17-2.610, General Particulate Emissions Limiting Standards and 17-2.620, General Pollutant Emissions Limiting Standards.

#### VI. EMISSIONS SUMMARY

The operation of this source will produce emissions of hydrocarbons (HC) and carbon monoxide (CO). The allowable emission for this source shall not exceed:

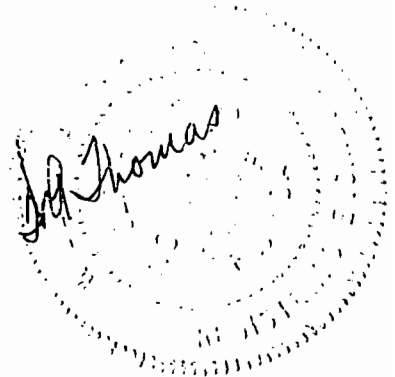
<u>Pollutant</u>	<u>Emission Rate</u>	
	<u>lbs/hr</u>	<u>ton/yr</u>
CO	24.6	107.7
CH <sub>4</sub>	14.1	65.5

##### VI.1 Air Quality Review

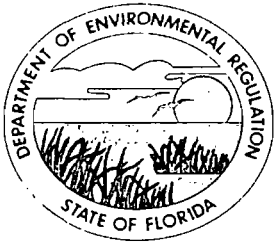
From a technical review of the application, the Department has determined that the installation and operation of this source will not have a detrimental impact on Florida's ambient air quality.

#### VII. CONCLUSION

Based on the information provided by Refuse Services, Inc., the Department has reasonable assurance that the proposed flare, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of an ambient air quality standard, PSD increment, or any other technical provisions of Chapter 17-2 of the Florida Administrative Code.







## *Florida Department of Environmental Regulation*

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

**PERMITTEE:**

Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, FL 32205

Permit Number: AC 16-154472

Expiration Date: June 30, 1989

County: Duval

Latitude/Longitude: 30° 11' 53"N  
80° 36' 00"W

Project: Flare Model Number  
BFT-10 McGill Environmental Systems,  
Inc.

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

For the construction of an utility flare to control odor emissions. Model No. BFT-10, McGill Environmental Systems, Inc. This facility is located in Jacksonville, Duval County, Florida.

Construction shall be in accordance with the permit application and plans, documents, and reference material submitted unless otherwise stated in the Preliminary Determination and Technical Evaluation or the General and Specific Conditions herein.

**Attachments:**

1. Application to Operate/Construct Air Pollution Sources, DER Form 17-202(1), received on August 15, 1988.
2. Department's letter dated August 25, 1988.
3. Refuse Service Inc.'s letter dated September 7, 1988.

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

**GENERAL CONDITIONS:**

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

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

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

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

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

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

GENERAL CONDITIONS:

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

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

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

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

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

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

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

**GENERAL CONDITIONS:**

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

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

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

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

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

13. This permit also constitutes:

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

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

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

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

**GENERAL CONDITIONS:**

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

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

**SPECIFIC CONDITIONS:**

1. This source shall be allowed to operate continuously (8760 hours/year).
2. Opacity shall not exceed 5%.
3. This source shall meet applicable specification requirements (60.18) of the general provisions 40 CFR 60, General Control Device Requirements.

PERMITTEE:  
Refuse Services, Inc.

Permit Number: AC 16-154472  
Expiration Date: June 30, 1989

**SPECIFIC CONDITIONS:**

4. Before this construction permit expires, this source shall be tested for visible emissions (VE). Compliance with the opacity limitation shall be determined by EPA reference Method 9, Visual Determination of Opacity of Emissions from Stationary Sources. The BESD's office shall be notified at least 15 days in advance of the compliance test.

5. Upon obtaining a permit to operate, the permittee shall be required to submit annual reports on the actual parameters (flow rate, combustion efficiency, pressure drop, flame length, net heating value of gas, velocity, etc.) and emissions from this source. Annual reports shall be sent to the Bio-Environmental Services Division (BESD) in Jacksonville.

6. The permittee may request that this construction permit be extended. Such a request shall be submitted to the BAQM prior to 60 days before the expiration of the permit (F.A.C. 17-4.090).

7. An application for an operation permit must be submitted to the Bio-Environmental Services Division (BESD) in Jacksonville at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit an application, the appropriate fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test results as required by this permit (F.A.C. 17-4.220).

Issued this \_\_\_\_\_ day of \_\_\_\_\_,  
1988

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

\_\_\_\_\_  
Dale Twachtman, Secretary

Microcoulometry, IBR approved July 31, 1984 for § 60.335(b)(2).

(45) ASTM D2584-68, Standard Test Method for Ignition Loss of Cured Reinforced Resins, IBR approved February 25, 1985 for § 60.685(e).

(46) ASTM D1946-77, Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 60.18(f).

(47) ASTM D3431-80, Standard Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons (microcoulometric method), IBR approved for § 60.49(e).

(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 NW., Washington, DC 20005.

(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, DC 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).

[48 FR 3735, Jan. 27, 1983, as amended at 43 FR 48335, Oct. 18, 1983; 49 FR 22608, May 30, 1984; 49 FR 30672, July 31, 1984; 49 FR 38233, Sept. 27, 1984; 50 FR 7699, Feb. 25, 1985; 50 FR 26126, June 24, 1985; 51 FR 2702, Jan. 21, 1986; 51 FR 42794, Nov. 23, 1986; 52 FR 11429, Apr. 8, 1987]

~~§ 60.18 General control device requirements.~~

(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 non-assisted. 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 paragraphs (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 methods specified in paragraph (f)(4), less than the velocity,  $V_{max}$ , 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 exit 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.

(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.

§ 60.20

40 CFR Ch. I (7-1-87 Edition)

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

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

C = 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 D1945-77 (Incorporated by reference as specified in § 60.17); and  
 H<sub>c</sub> = 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 exit 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<sub>max</sub>, for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\log_{10} (V_{\max}) = (H_c - 28.8) / 31.7$$

V<sub>max</sub> = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

H<sub>c</sub> = The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity, V<sub>max</sub>, for air-assisted flares shall be determined by the following equation.

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

V<sub>max</sub> = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

H<sub>c</sub> = The net heating value as determined in paragraph (f)(3).

40 FR 2701, Jan. 21, 1965]

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

SOURCE: 40 FR 53346, Nov. 17, 1975, unless otherwise noted.

#### § 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:

(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).

(e) "Emission guideline" means a guideline set forth in Subpart C of this part, or in a final guideline document published under § 60.22(a), which reflects the degree of emission reduction achievable through the application of the best system of emission reduction which (taking into account the cost of such reduction) the Administrator has determined has been adequately demonstrated for designated facilities.

### Environmental Protection A

(f) "Emission standard" means a legally enforceable regulation setting forth an allowable rate of discharge into the atmosphere, or equipment specifications for air pollution emissions.

(g) "Compliance schedule" means a legally enforceable schedule setting forth a date or dates by which a category of sources must comply with specific emission standards, in a plan or with any incremental progress to achieve such compliance.

(h) "Increments of progress" means steps to achieve compliance that must be taken by an owner or operator of a designated facility, including:

(1) Submittal of a final compliance plan for the designated facility and appropriate air pollution control measures;

(2) Awarding of contracts for emission control systems or for modifications, or issuance of orders for the purchase of components to accomplish emission control modification;

(3) Initiation of on-site construction or installation of emission control equipment or process changes;

(4) Completion of on-site construction or installation of emission control equipment or process changes;

(5) Final compliance.

(i) "Region" means an area of air control region designated under section 107 of the Act and designated in Part 81 of this chapter.

(j) "Local agency" means a governmental agency.

#### § 60.22 Publication of guidelines, emission guidelines, and compliance times.

(a) After promulgation of a standard of performance for the control of a designated pollutant from a category of sources, the Administrator will publish a draft guideline document containing information pertinent to the control of the designated pollutant from the designated facilities. Notice of the availability of the draft guideline document will be published in the FEDERAL REGISTER, and public comments on the contents will be invited. After consideration of public comments, a final guideline document will be published and notice of its availability will be published in the FEDERAL REGISTER.

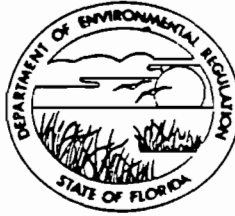




STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207  
904/798-4200



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY  
ERNEST E. FREY  
DISTRICT MANAGER

September 1, 1988

Mr. Harvey H. Bush, Jr., P.E.  
Manager, Environmental Engineering  
Waste Management of North America, Inc.  
Southeast Region  
500 Cypress Creek Road West  
Fort Lauderdale, Florida 33309-6127

RECEIVED

SEP 13 1988

DER-BAQM

Dear Mr. Bush:

Duval County - Solid Waste  
Sunbeam Road Sanitary Landfill  
Gas Collection System design  
Letter of Approval

The Department has finalized its review of the referenced gas collection system design, submitted to this office for review and approval June 20, 1988. The design was submitted in response to Specific Condition No. 3 of Closure Permit No. SF16-130528, which required submittal of engineering plans for the final design of the gas collection system; and in response to Florida Administrative Code Rule 17-7.073(6)(f).

The Department's request for additional information was submitted August 1, 1988, and response dated August 12, 1988 from Mr. Harvey H. Bush was received and discussed with Mr. Bush on August 16, 1988 in the Department's Northeast District office.

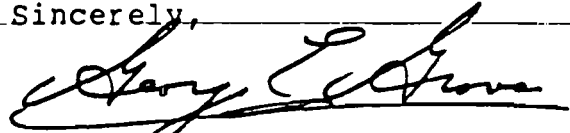
Following these reviews and discussions, it has been determined that the Engineering Plans for the Sunbeam Road Landfill Gas Management Plan, as required by Specific Condition No. 3 of Permit No. SF16-130528, are hereby approved. However, Department approval of this Landfill Gas Management Plan does not in any way relieve Waste Management of Florida, Inc., its heirs or assigns, of full responsibility for control of odor and for operation and control of the gas collection system.

All Specific Conditions of Permit No. SF16-130528 remain in effect. Should gas migration surveys or gas system operation indicate the need for remediation, the Department shall be immediately notified and remedial action taken promptly, subject to Department approval.

Mr. Harvey H. Bush, Jr.  
Page two  
September 1, 1988

Your prompt response was greatly appreciated, as well as the opportunity to meet with you to discuss the various comments. Should there be any questions, please do not hesitate to contact us at your earliest convenience.

Sincerely,

A handwritten signature in dark ink, appearing to read "George E. Groves", written over a horizontal line.

George E. Groves, P.E.  
Supervisor, Solid Waste

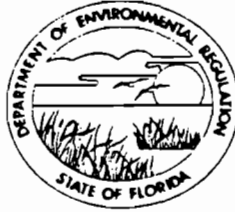
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Handwritten initials "MF" in dark ink, written next to the typed name "GEG:ml".

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

**NORTHEAST DISTRICT**

3426 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207  
904/798-4200



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY

ERNEST E. FREY  
DISTRICT MANAGER  
GARY L. SHAFFER  
ASSISTANT DISTRICT MANAGER

**PERMITTEE:**

Mr. Joseph F. Jack,  
Regional Manager  
Waste Management, Inc. of Florida  
800 N.W. 62nd Street  
Ft. Lauderdale, Florida 33309

I.D. Number: GMS 3116P10004  
Permit/Certification Number: SF16-130528  
Date of Issue: March 14, 1988  
Expiration Date: January 1, 1993  
County: Duval  
Latitude/Longitude: 30°11'53"/80°36'00"  
Section/Township/Range: S33T35SR27E  
Project: Sunbeam Landfill - Closure

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-4 and 17-6. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

To close the Sunbeam Landfill and monitor and maintain the landfill after closure activities are complete. Closure activities include installation of final cover including a low permeability clay cap and installation of a landfill gas collection system. Provisions for monitoring ground and surface water quality are included.

Located directly south of Sunbeam Road, Section 33, Township 35 south, Range 27E, Duval County, Florida.

In accordance with the application received February 2, 1987, and additional supporting information provided.

PERMITTEE:

Waste Management, Inc. of Florida

I.D. Number: GMS 3116P10004

Permit/Certification Number: SF16-130528

Date of Issue: March 14, 1988

Expiration Date: January 1, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.
6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

PERMITTEE:

Waste Management, Inc. of Florida

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7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:
- a. Having access to and copying any records that must be kept under the conditions of the permit;
  - b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
  - c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:
- a. a description of and cause of non-compliance; and
  - b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.
10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
11. This permit is transferable only upon department approval in accordance with Florida Administrative code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the department.

PERMITTEE:

Waste Management, Inc. of Florida

I.D. Number: GMS 3116P10004

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

13. This permit also constitutes:

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

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

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

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

PERMITTEE:

Waste Management, Inc. of Florida

I.D. Number: GMS 3116P10004

Permit/Certification Number: SF16-130528

Date of Issue: March 14, 1988

Expiration Date: January 1, 1993

SPECIFIC CONDITIONS:

1. Application, plans, specifications and supporting information not attached hereto are retained on file in the District Office.
2. The landfill shall be closed, monitored and maintained in accordance with the application, plans and supporting information submitted, and with the criteria contained in Sections 17-7.070 through 17-7.076, Florida Administrative Code.
3. Permittee shall submit engineering plans for the final designs on the gas collection system and stormwater controls for Department review and approval.
4. Objectionable odors at the site shall be controlled. The gas collection system shall be operated and monitored to ensure efficient gas collection and destruction through flaring or combustion in the electric generators. At any time the electric generators are down for maintenance or repair, flares shall be immediately put in service.
5. Permittee shall perform a gas migration survey within six months of issuance of this permit with results submitted to this office. Survey shall include bar hole measurements around waste filled areas and the property boundary to determine gas migration potential and gas collection system effectiveness. Surveys shall be performed on an annual basis thereafter.
6. After all significant closure activities are complete (installation and seeding of final cover, installation of gas collection system, etc.), the permittee shall arrange for Department representatives to inspect the site.
7. Pursuant to 17-7.074(2), FAC, concrete monuments shall be installed to mark the boundaries of the landfill property and other permanent markers installed to outline the general waste filled areas. These latter markers shall be tied to one or more of the boundary markers by a survey. The location and elevation of all shall be shown on the site plan filed with the "Declaration to the Public".
8. Pursuant to 17-7.074(3), FAC, a final survey by a professional engineer or registered land surveyor shall be performed to verify that final contours and elevations are in accordance with the plans submitted in support of the application. The survey shall be a report which includes information reflecting as-built conditions of the landfill. Contours should be shown at no greater than 5 foot intervals.
9. After Department inspection and approval of the closed site pursuant to specific condition three above, the permittee shall file a "Declaration to the Public" pursuant to 17-7.074(4), FAC. A certified copy of the declaration shall be filed with the Department.



PERMITTEE:

Waste Management, Inc. of Florida

I.D. Number: GMS 3116P10004

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Date of Issue: March 14, 1988

Expiration Date: January 1, 1993

SPECIFIC CONDITIONS:

10. Within thirty days of receipt of the information required by specific conditions 5 and 6 above, the Department shall notify the permittee in writing that notice of termination of operations and closing of the facility has been received. The long term care period shall extend 20 years beyond the date of the Department letter pursuant to 17-7.075, FAC.
11. Permittee shall monitor ground and surface water quality around the site in accordance with the approved monitoring plan contained in previous Operation Permit SO16-094791. Conditions of this monitoring plan are incorporated into this permit by reference. Should the results of the monitoring indicate contamination of ground or surface waters in violation of Department standards, corrective actions shall be implemented as specified by Department order. The following monitoring conditions apply:
  - a. Permittee shall monitor groundwater quality in the vicinity of the closed landfill pursuant to Section 17-4.245, FAC. All sampling and analysis required under this condition is subject to the provisions of Section 17-4.246, FAC.
  - b. The zone of discharge extends horizontally to the property line and vertically to the base of the surficial aquifer in accordance with Rule 17-4.245(4)(b), FAC. This will remain in effect unless it becomes necessary to seek a change in the zone of discharge pursuant to Section 17-4.245(5)(b), FAC.
  - c. The following groundwater sampling points are established as related to the attached monitoring well and surface water sample station location maps.

Monitoring Wells

Background:	MW-03	Located approximately 1360 feet south and 50 feet west of the northeast property boundary.
	MW-04R	Located at the southeast property boundary.
Compliance:	MW-01R	Located approximately 140 feet east and 40 feet south of the northwest corner of the northern leg of the property boundary.
	MW-02R	Located approximately 50 feet south and 1190 feet east of the northwest corner of the property boundary.
	MW-05R2	Located 770 feet north and 30 feet east of the southwest corner of the south leg of the property boundary.
	MW-06R	Located 710 feet north and 30 feet east of the southeast corner of the property boundary.

PERMITTEE:

Waste Management, Inc. of Florida

I.D. Number: GMS 3116P10004

Permit/Certification Number: SF16-130528

Date of Issue: March 14, 1988

Expiration Date: January 1, 1993

SPECIFIC CONDITIONS:

11. c. (continued)

Additional Sampling

Points: MW-07 Located at 4068 Huntington Forest Boulevard.

MW-08R Located at 9564 Kevin Road.

- d. The following surface water sampling stations are established as related to the attached monitoring well and surface water sample station location maps:

SW-10 Adjacent to the southwest corner of the property boundary at the P.U.D. canal.

SW-11 Approximately 700 feet north of SW-10 at the P.U.D. canal.

SW-12 Just inside the northwest property boundary at the P.U.D. canal, downstream of the confluence of JEA and P.U.D. canals.

- e. Quarterly sampling of wells is required for the following parameters:

TDS	Bicarbonate	NH <sub>4</sub> - N
TOC	Calcium	NO <sub>3</sub> - N
pH	Magnesium	NH <sub>3</sub> - N
Chloride	Sodium	Organic N
Sulfate	Manganese	Total Nitrogen
Zinc	Iron	Specific Conductance
Groundwater Elevation (MSL)		Turbidity

In addition to the quarterly sampling as required above, a complete VOC scan (EPA Method 524) and primary drinking water metals is required on all wells on an annual basis thereafter in the month of December.

If it is determined that any of the sampling points above are unattainable for sampling during the scheduled quarterly sampling event, then a written explanation shall be provided with the results of that sampling event and a statement shall be provided describing the measures to be taken to gain access to the well for the subsequent sampling events.

- f. Quarterly sampling of all surface water locations is required for the following parameters:

Total Cadmium	COD	Turbidity
Total Chromium	Nitrate as N	(Flow Rate) (estimated)
Total Copper	TOC	pH
Total Lead	Fecal Coliform	Specific Conductance

PERMITTEE:

Waste Management, Inc. of Florida

I.D. Number: GMS 3116P10004

Permit/Certification Number: SF16-130528

Date of Issue: March 14, 1988

Expiration Date: January 1, 1993

SPECIFIC CONDITIONS:

11. g. Groundwater elevations accurate to  $\pm 0.01$  feet, referenced to Mean Sea Level (MSL) on NGVD shall be obtained from each well during any sampling event. Water levels shall be measured prior to well purging. This information shall be supplied along with the reported analytical results.
  - h. A report shall be submitted to the Department at the letterhead address on DER Form 17.1.216(2) within fifteen (15) days of receipt of (complete) analyses by permittee. Included with the report shall be a statement of the current nature of the discharge plume, if one exists, relative to the previous report with regard to its size, direction, and rate of movement.
  - i. If at anytime the quarterly monitoring parameters show a statistical increase or decrease in concentration over background levels, whichever is applicable, then the affected well shall be immediately resampled to verify results, and an expanded analysis will be required. A report shall be submitted to the Department at the letterhead address within fifteen (15) days of the receipt of the analyses by the permittee.
  - j. Ground and surface waters affected by the landfill shall be consistent at all times with the water quality standards set forth in Chapter 17-3, Florida Administrative Code.
  - k. Compliance with groundwater standards shall be determined by analyses of unfiltered groundwater samples.
12. Permittee shall comply with conditions of NPDES Permit FL0037672 and future modifications thereof.
  13. Permittee shall comply with the provisions of the St. Johns River Water Management District's Management and Storage of Surface Waters Permit. Any water quality monitoring required under the water management district permit shall also be submitted to the Department.
  14. Permittee shall be responsible for monitoring and maintaining the closed landfill for the 20 year long term care period. Permittee shall maintain and repair the final cover, berms, gas control system, and stormwater management devices, ditches and ponds as necessary to ensure compliance with the closure plan. Pursuant to Section E of the permit application submittal, the site shall initially be inspected monthly or after severe rainfall events and repairs to erosion controls, drainage devices, or other items shall be performed as appropriate.

PERMITTEE:

Waste Management, Inc. of Florida

I.D. Number: GMS 3116P10004

Permit/Certification Number: SF16-130528

Date of Issue: March 14, 1988

Expiration Date: January 1, 1993

SPECIFIC CONDITIONS:

15. Pursuant to Section 17-4.090, FAC, sixty days prior to the expiration date of the permit, the permittee shall apply for renewal on forms and in a manner prescribed by the Department.

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

*for*   
Ernest E. Frey  
District Manager

Northeast District  
3426 Bills Road  
Jacksonville, Florida 32207

Best Available Copy

CERTIFICATION

Project Name SUNBEAM ROAD LANDFILL CLOSURE  
Application No. SF 16 - 130528

I HEREBY CERTIFY that the engineering features described in the referenced application [provide/do not provide] reasonable assurance of compliance with the applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Title 17. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).

3/11/88

P. M. Coran  
NAME, P.E.



PM  
8-31-88  
Ft. Lauderdale, FL  
Waste Management, Inc. of Florida  
500 Cypress Creek Road, West • Fort Lauderdale, Florida 33309-6127  
Suite 300 • 305/771-9850

*file copy*

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DER - MAIL ROOM  
1988 SEP -7 AM 10:34

RECEIVED  
SEP 8 1988  
DER - BAQM

August 30, 1988

Mr. C. H. Fancy, P.E.  
Deputy Chief, Bureau of Air Quality  
2600 Blair Stone Road  
Tallahassee, FL

RE: Sunbeam Road Landfill

Dear Mr. Fancy:

Please find enclosed our check in the amount of \$1000.00 to cover the application fee referenced in your letter of August 28, 1988.

Sincerely,

Harvey H. Bush, Jr., P.E.  
Manager, Environmental Engineering

Enclosure

HB/lf

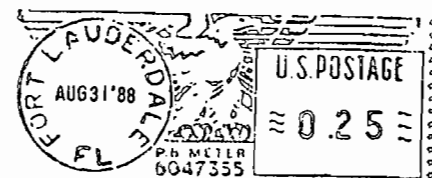
*copied: Teresa Hiron  
Daniel Hall, BES  
Bill Stewart, NE Dist.*

Ref: AC 16-154472

1031



Waste Management of North America, Inc.  
Southeast Region  
500 Cypress Creek Road, West • Fort Lauderdale, Florida 33309-6127  
Suite 300



Mr. C.H. Fancy, P.E.  
Deputy Chief, Bureau of Air Quality  
2600 Blairstone Road  
Tallahassee, FL 32301



**WASTE MANAGEMENT OF  
NORTH AMERICA, INC.**

SOUTHEAST REGION OFFICE  
500 CYPRESS CREEK RD., WEST, SUITE 300  
FT. LAUDERDALE, FL 33309-8127  
PH. 305-771-9850



**Mellon Bank**  
Mellon Bank N.A.  
Pittsburgh, PA

07980

August 31, 1988

8-26  
430

PAY

WASTE MGMT. OF  
N. AMERICA INC. **1000 DOLS 00 CTS**

DOLLARS \$ 1,000.00

TO  
THE  
ORDER  
OF

Department Of Environmental  
Regulation - Bureau of Air Quality  
Management

**WASTE MANAGEMENT OF  
NORTH AMERICA, INC.**

DETACH AND RETAIN THIS STATEMENT  
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.  
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.

DELUXE - FORM WVC-3 V-2

DATE	DESCRIPTION	AMOUNT
August 31, 1988	Application Fee for Sunbeam Road landfill 305-195-00 / Sunbeam Bush	1,000.00

V-8

1031



**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. 2. ☐ Restricted Delivery  
↑(Extra charge)↑ ↑(Extra charge)↑

<b>3. Article Addressed to:</b>  Mr. Jim O'Connor, Regional Mgr. Refuse Services, Inc. 4710 Dignan Street Jacksonville, FL 32205	<b>4. Article Number</b> P 274 007 442  <b>Type of Service:</b> <input type="checkbox"/> Registered <span style="margin-left: 50px;"><input type="checkbox"/> Insured</span> <input checked="" type="checkbox"/> Certified <span style="margin-left: 50px;"><input type="checkbox"/> COD</span> <input type="checkbox"/> Express Mail  Always obtain signature of addressee or agent and <b>DATE DELIVERED.</b>
<b>5. Signature — Addressee</b> X <i>Jim O'Connor</i>	<b>8. Addressee's Address (ONLY if requested and fee paid)</b>
<b>6. Signature — Agent</b> X	
<b>7. Date of Delivery</b> 8/29/88	

PS Form 3811, Mar. 1987

★ U.S.G.P.O. 1987-178-268

DOMESTIC RETURN RECEIPT

P 274 007 442

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

★ U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to <b>Mr. Jim O'Connor, Refuse Serv.</b>	
Street and No. <b>4710 Dignan St.</b>	
P.O., State and ZIP Code <b>Jacksonville, FL 32205</b>	
Postage	5
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	5
Postmark or Date  <b>Mailed: 8-26-88</b>	



## Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

August 25, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jim O'Connor, Regional Manager  
Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, Florida 32205

*Rept. # 117567*

Dear Mr. O'Connor:

Re: Application Submitted Deficiency

The Department has received the application package for your Landfill Gas Utility Flare. Pursuant to Chapter 403.087, Florida Statutes, the material submitted cannot be processed without the proper fee being submitted. Based on an estimated CO emission rate of 107.7 TPY (page 4 of the application) you need to submit \$1000 to the DER's Bureau of Air Quality Management.

If there are any questions, please call Patty Adams at (904)488-1344 or write to me at the above address.

Sincerely,

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

CHF/TH/s

cc: Darrell Hall, BESD

DEPARTMENT OF HEALTH, WELFARE  
& BIO-ENVIRONMENTAL SERVICES  
Bio-Environmental Services Division



RECEIVED

AUG 24 1988

DER-BAQM

August 18, 1988

Ms. Patty Adamson  
Bureau of Air Quality Management  
Department of Environmental Regulation  
2600 Blair Stone Road  
Twin Towers Office Bldg.  
Tallahassee, FL 32077

Re: **Bio-Environmental Services Division (BESD) Letter to Mr. Jim O'Connor  
Refuse Services, Incorporated - Dated August 3, 1988**

Dear Ms. Adamson

As requested in our August 16, 1988 phone conversation, a copy of the above referenced letter is enclosed.

If you have any questions, please contact the undersigned at (904) 630-3210.

Very truly yours,

Darrel J. Hall  
Permitting Specialist

DJH/ecr

Enc.

cc: Mr. Bill Stewart, P.E., DER  
BESD File 2010-A  
BESD Air Permitting File  
Disc 1, 35



**DEPARTMENT OF HEALTH, WELFARE  
& BIO-ENVIRONMENTAL SERVICES**  
Bio-Environmental Services Division  
Air and Water Pollution Control



August 3, 1988

Mr. Jim O'Connor  
Regional Manager  
Refuse Services, Inc.  
4710 Dignan Street  
Jacksonville, Florida 32205

**Re: Construction Application dated July 20, 1988 - Landfill Gas Utility Flare  
Check No. 07904**

Dear Mr. O'Connor:

The above referenced construction application has been sent to the Central Air Permitting section of the Department of Environmental Regulations in Tallahassee for processing.

Check No. 165986 to the City of Jacksonville is being returned because an application review fee by Bio-Environmental Services Division (BESD) is not warranted in this situation.

If you have any questions, please contact the undersigned at (904) 630-3666.

Very truly yours,

Darrel J. Hall  
Permitting Specialist

DJH/rlj

Enc.

cc: Mr. Bill Stewart, P.E., DER  
BESD File 2010-A  
BESD Air Permitting File  
(Disc: 1,35)



AREA CODE 904 / 630-3666 — NIGHTS/WEEKENDS · 630-3685  
421 WEST CHURCH STREET / JACKSONVILLE, FLORIDA 32202-4111

**WASTE MANAGEMENT OF  
NORTH AMERICA, INC.**

SOUTHEAST REGION OFFICE  
500 CYPRESS CREEK RD., WEST, SUITE 300  
FT. LAUDERDALE, FL 33309-6127  
PH. 305-771-9850



**Mellon Bank**  
Mellon Bank N.A.  
Pittsburgh, PA

07904

July 20, 1988

8-26  
430

PAY WASTE MGMT. OF N. AMERICA INC. 2440 DOLS 00 CTS DOLLARS \$ 2,440.00

TO  
THE  
ORDER  
OF

Tax Collector, City Of Jacksonville

*Charles M. Mersel*

DELUXE CHECK PRINTERS

**WASTE MANAGEMENT OF  
NORTH AMERICA, INC.**

DETACH AND RETAIN THIS STATEMENT  
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.  
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.

**DELUXE - FORM WVC-3 V-2**

DATE	DESCRIPTION	AMOUNT
July 20, 1988	Permit fees for Flare System- Sunbeam Landfill 305-195-00 Bush	2,440.00

DEPARTMENT OF HEALTH, WELFARE  
& BIO-ENVIRONMENTAL SERVICES  
Bio-Environmental Services Division  
Air and Water Pollution Control



August 10, 1988

RECEIVED

AUG 15 1988

DER - BAQM

Mr. Clair Fancy, P.E.  
Bureau of Air Quality Management  
Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32301-8241

**Re: Construction Application dated July 20, 1988 - Landfill Gas Utility Flare**

Dear Mr. Fancy:

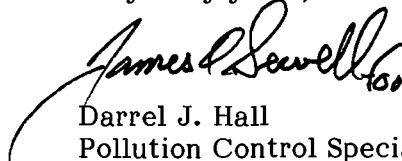
In accordance with the permitting agreement between the Bio-Environmental Services Division (BESD) and the Department of Environmental Regulation (DER) any construction permit application having an emission of 100 tons per year, or more, is to be processed by the Central Air Permitting Section (CAPS).

The above referenced application reflects a calculated carbon monoxide (CO) emission on the Flare Emission Summary Page of 107.7 tons per year, hence said application is being forwarded to CAPS for processing.

The BESD will submit comments to CAPS on said application in the near future.

If the BESD may be of further assistance, please advise.

Very truly yours,

  
Darrel J. Hall  
Pollution Control Specialist

DJH/rlj

Enclosures

cc: Mr. Bill Stewart, P.E., DER  
Mr. Jim O'Connor  
BESD Air Permitting File  
BESD File 2010-A  
[Disc: 1,34]

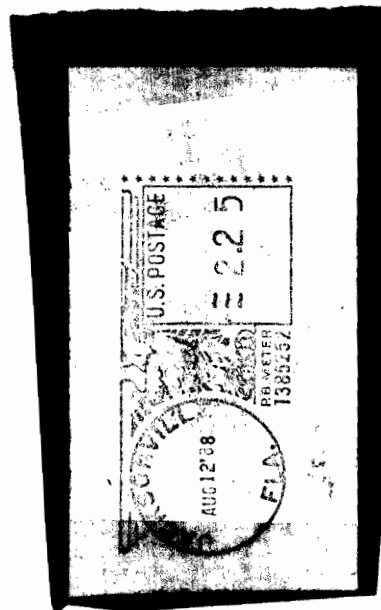


AREA CODE 904 / 630-3666 — NIGHTS/WEEKENDS - 630-3685  
421 WEST CHURCH STREET / JACKSONVILLE, FLORIDA 32202-4111

8-16-88

Darrel Hall said they  
returned applicant's \$2440  
check. Will send us a  
copy of the letter

PA



Best Available Copy

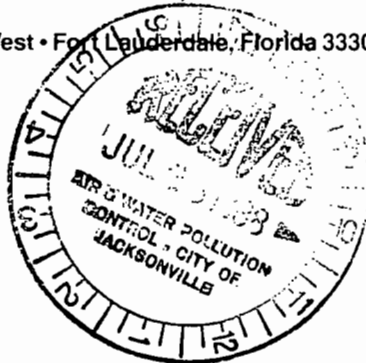


Waste Management of North America, Inc.

Southeast Region

500 Cypress Creek Road, West • Fort Lauderdale, Florida 33309-6127

Suite 300 • 305/771-9850



July 20, 1988

Mr. Darrell J. Hall  
Pollution Control Specialist  
Department of Health, Welfare, and Bio-Environmental Services  
421 West Church Street  
Jacksonville, FL 32202-4111

RE: Sunbeam Road Landfill  
Operating Permit Application  
Waste Gas Flare System

Dear Mr. Hall:

Enclosed is our application (in quadruplicate) to construct and operate a waste gas flare used to control odors at the closed Sunbeam Road Sanitary Landfill. A check for \$2440.00 is enclosed to cover processing fees for the application and the first annual maintenance fee.

We plan to commence construction in August 1988 with completion in December 1988.

Sincerely,

Harvey H. Bush, Jr., P.E.  
Manager, Environmental Engineering

Enclosure

cc: Bryan Johnson  
Billy Purvis  
Frank Tuenge

HB/lf

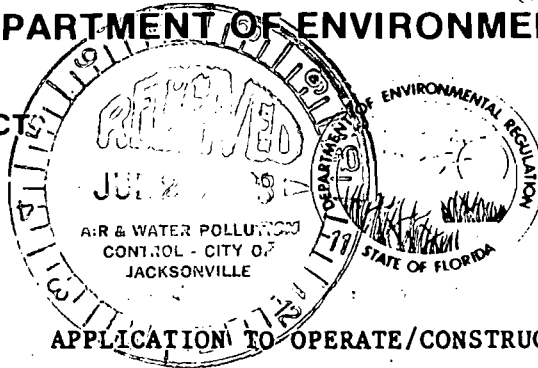


STATE OF FLORIDA

## DEPARTMENT OF ENVIRONMENTAL REGULATION

## NORTHEAST DISTRICT

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



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

ERNEST L. FREY  
DISTRICT MANAGER

## APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Landfill Gas ☒ New<sup>1</sup> ☐ Existing<sup>1</sup>APPLICATION TYPE: ☒ Construction ☒ Operation ☐ ModificationCOMPANY NAME: Refuse Services, Inc. COUNTY: Duval

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) Landfill Gas  
Utility Flare

SOURCE LOCATION: Street Sunbeam Road City Jacksonville

UTM: East \_\_\_\_\_ North \_\_\_\_\_

Latitude 30 ° 11 ' 53 "NLongitude 80 ° 36 ' 00 "WAPPLICANT NAME AND TITLE: Refuse Services, Inc.APPLICANT ADDRESS: 4710 Dignan Street Jacksonville, FL 32205

## SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

## A. APPLICANT

I am the undersigned owner or authorized representative\* of Refuse Services, Inc.

I certify that the statements made in this application for a Operation/Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

\*Attach letter of authorization

Signed: Jim O'Connor

Jim O'Connor Regional Manager  
Name and Title (Please Type)

Date: 7/20/88 Telephone No. 305-771-9850

## B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

<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

Harvey H. Bush, Jr.

Harvey H. Bush, Jr.

Name (Please Type)

Waste Management of Florida, Inc.

Company Name (Please Type)

500 N.W. 62nd Street Suite 300  
Ft. Lauderdale, FL 33309

Mailing Address (Please Type)

Florida Registration No. 6267

Date: \_\_\_\_\_

Telephone No. 305-771-9850

## 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.

Landfill Gas Disposal. Odorous components of the landfill gas will be reduced by thermal reduction process created and controlled by the utility flare specifically designed for disposal of landfill gas.

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

Start of Construction August 1988 Completion of Construction December 1988

- 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.)

Utility Flare \$30,000.00

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

N/A

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 365 ;  
if power plant, hrs/yr N/A ; if seasonal, describe: N/A

F. If this is a new source or major modification, answer the following questions.  
(Yes or No).

1. Is this source in a non-attainment area for a particular pollutant? No

a. If yes, has "offset" been applied? N/A

b. If yes, has "Lowest Achievable Emission Rate" been applied? N/a

c. If yes, list non-attainment pollutants. N/A

2. Does best available control technology (BACT) apply to this source?  
If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioration" (PSD)  
requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS)  
apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants"  
(NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply  
to this source? No

a. If yes, for what pollutants? \_\_\_\_\_

b. If yes, in addition to the information required in this form,  
any information requested in Rule 17-2.650 must be submitted.

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

### SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

#### A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
		N/A		

#### B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): N/A

2. Product Weight (lbs/hr): N/A

#### C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission <sup>1</sup>		Allowed <sup>2</sup> Emission Rate per Rule 17-2	Allowable <sup>3</sup> Emission lbs/hr	Potential <sup>4</sup> Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
CH <sub>4</sub>	14.05						
CO <sub>2</sub>	6707.85						
CO	24.58						
N <sub>2</sub>	19009.91	"SEE ATTACHMENT"					
O <sub>2</sub>	154.02						

H<sub>2</sub>O 3340.91  
<sup>1</sup>See Section V, Item 2.

<sup>2</sup>Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

<sup>3</sup>Calculated from operating rate and applicable standard.

<sup>4</sup>Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
McGill Americas Inc. Model BFT-10	Thermal Reduction	98%	N/A	

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
N/A			

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

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: N/A  
 Density: N/A lbs/gal Typical Percent Nitrogen: N/A  
 Heat Capacity: N/A BTU/lb N/A 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 N/A Maximum N/A

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: 20 ft. Stack Diameter: 0.833 ft.  
 Gas Flow Rate: 1200 ACFM          DSCFM Gas Exit Temperature: 70°F °F.  
 Water Vapor Content: Saturated % Velocity: 25.5 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated				N/A			
Uncontrolled (lbs/hr)							

Description of Waste N/A  
 Total Weight Incinerated (lbs/hr) N/A Design Capacity (lbs/hr) N/A  
 Approximate Number of Hours of Operation per day N/A day/wk N/A wks/yr. N/A  
 Manufacturer N/A  
 Date Constructed N/A Model No. N/A

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

Stack Height: N/A ft. Stack Diameter: N/A Stack Temp. N/A  
 Gas Flow Rate: N/A ACFM N/A DSCFM\* Velocity: N/A 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: N/A Cyclone N/A Wet Scrubber N/A Afterburner

[ ] Other (specify) N/A

Brief description of operating characteristics of control devices: \_\_\_\_\_

N/A

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

N/A

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

#### SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

**SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY**

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

☐ Yes ☐ No

Contaminant	Rate or Concentration
N/A	

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

☐ Yes ☐ No

Contaminant	Rate or Concentration
N/A	

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

Contaminant	Rate or Concentration
N/A	

- D. Describe the existing control and treatment technology (if any). N/A

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

\*Explain method of determining



5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

N/A

10. Stack Parameters N/A

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: N/A 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: N/A 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. N/A

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. N/A

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: Utility Flare

2. Efficiency:<sup>1</sup> 98%+ (EPA Reports)

3. Capital Cost: \$30,000.00

4. Useful Life: 30 years

5. Operating Cost: \$5,000.00/yr

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

7. Maintenance Cost: \$1,000.00/yr

8. Manufacturer: McGill America's Inc.

9. Other locations where employed on similar processes: N/A

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

<sup>2</sup>Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:<sup>1</sup> N/A

Contaminant

Rate or Concentration

(8) Process Rate:<sup>1</sup> N/A

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:<sup>1</sup>

Contaminant

Rate or Concentration

N/A

(8) Process Rate:<sup>1</sup>

10. Reason for selection and description of systems:

<sup>1</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

#### SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data N/A

1. \_\_\_\_\_ no. sites \_\_\_\_\_ TSP \_\_\_\_\_ ( ) SO<sub>2</sub>\* \_\_\_\_\_ Wind spd/dir

Period of Monitoring \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
month day year month day year

Other data recorded \_\_\_\_\_

Attach all data or statistical summaries to this application.

\*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory N/A

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 N/A

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 N/A

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 \_\_\_\_\_ N/A \_\_\_\_\_ grams/sec

SO<sub>2</sub> \_\_\_\_\_ N/A \_\_\_\_\_ grams/sec

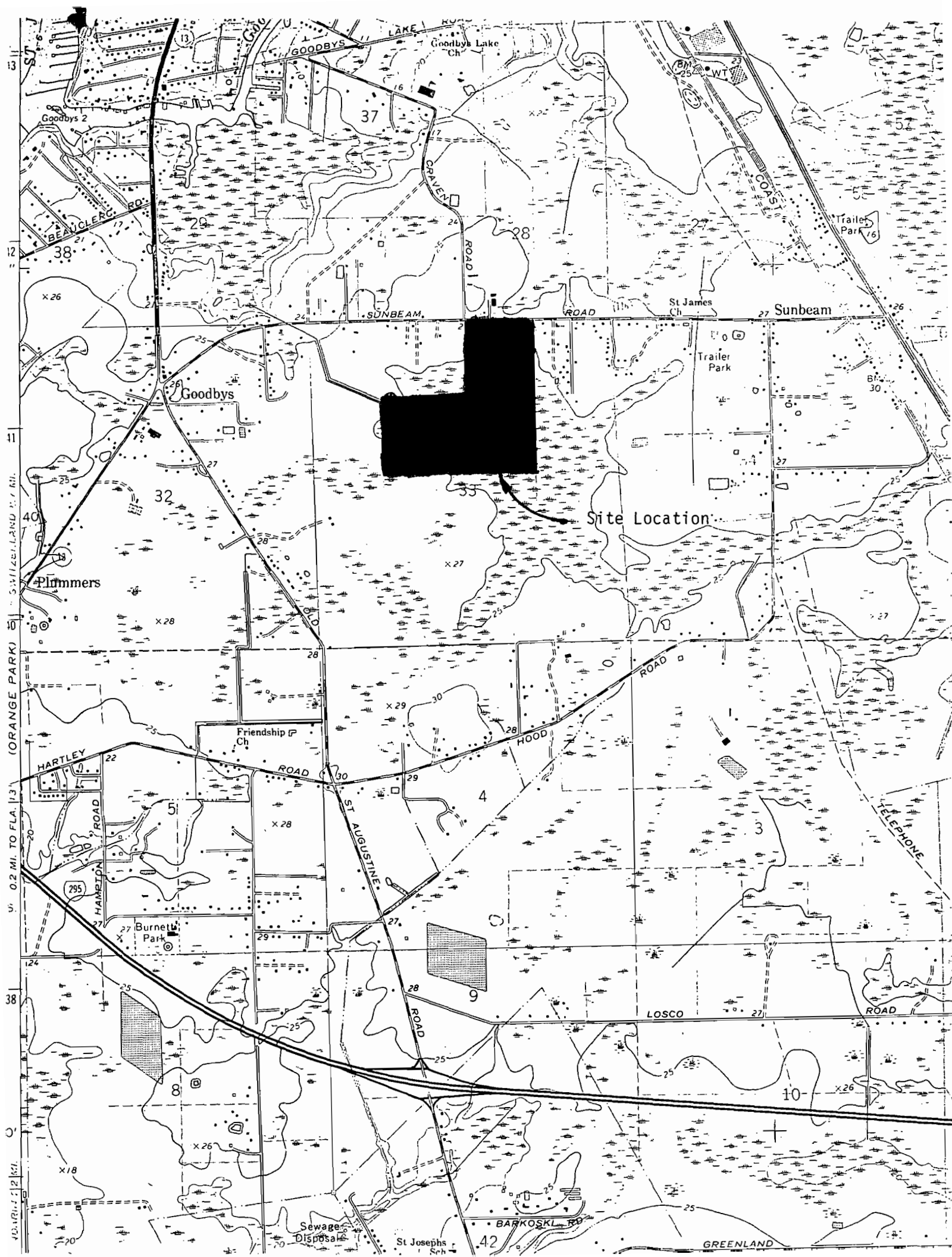
E. Emission Data Used in Modeling N/A

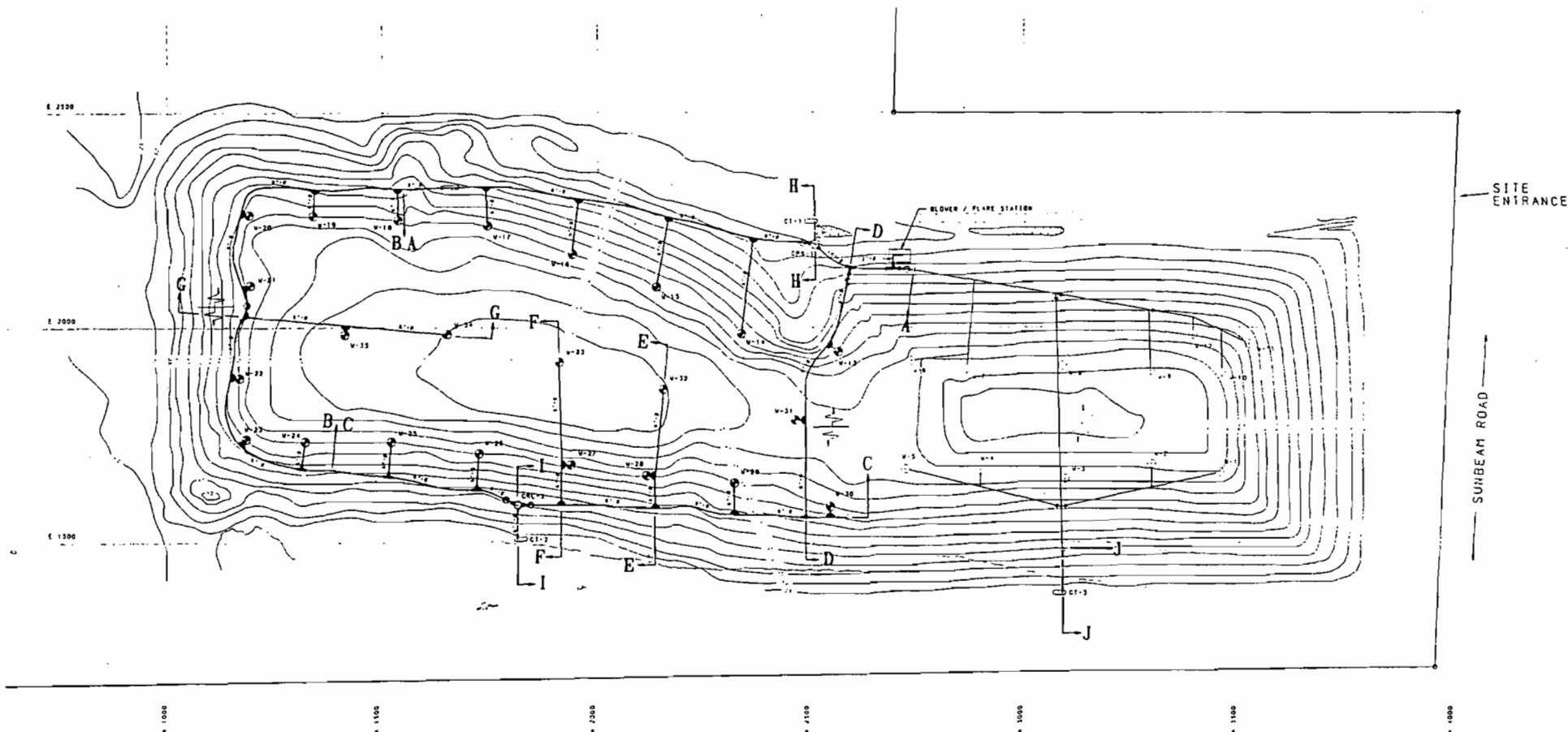
Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review. N/A

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. N/A

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. N/A























## NOTES

- 1 DATA SOURCE REPRODUCED WITH DATA OBTAINED FROM ENGLAND-TIMES &  
MILLER, INC., DATED MARCH 1967.
- 2 EXISTING GAS MANAGEMENT SYSTEM REPRODUCED WITH DATA OBTAINED  
FROM PLANTS AND TIELDS; "ACTIVE GAS venting system. REFUSE SERVICES  
WATER-PROOF HOLES ARE LOCATED AT THE INTERSECTION OF COASTAL HIGH-  
A-BUILT MODIFICATIONS." DATED JANUARY 1983. LOCATIONS OF HOPE  
HEADS AND GAS INJECTION WELLS ARE APPROXIMATE.
- 3 ELEVATIONS ARE U S N MEAN SEA LEVEL DATUM.
- 4 HORIZONTAL GRID datum IS AN ARBITRARY AND INCREASING FOR THE NORTH  
AND WEST. THE GRID LAYOUT IS BASED ON THE MOST CONTINUOUSLY  
PROMINENT BOUNDARY CORNER AND NAMED COORDINATES OF X=050  
Y=030.
- 5 EXISTING CONDUITS REMOVAL LOCATIONS AND GRAVE YIELDS TO BE  
ABANDONED DURING GAS MANAGEMENT STRIEF DEBRIS CONSTRUCTION.
- 6 EXISTING WELL HEADS A PAIR OF - NOT THROUGH A-10 : TO BE  
RECONSTRUCTED TO A-10-NET

## SECTION SCHEDULE

SECTION + STATION	SHEET
A-A : 0+00 TO 12+00	4
B-B : 12+00 TO 24+00	5
C-C : 24+00 TO 36+08	6
D-D : 0+00 TO 8+04	7
E-E : 0+00 TO 2+75	7
F-F : 0+00 TO 3+11	8
G-G : 0+00 TO 4+72	8
H-H : 0+00 TO 0+53	9
I-I : 0+00 TO 0+79	9
J-J : 0+00 TO 1+02	9

LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PROPOSED GAS EXTRACTION WELL		EXISTING GAS EXTRACTION WELL
	PROPOSED HOPE HEADER PIPE		EXISTING HOPE HEADER PIPE
	PROPOSED CONDENSATE REMOVAL LOCATION		PROPOSED HEADER CASING
	PROPOSED CONDENSATE PUMP STATION		PROPOSED FLANGE CONNECTION
	PROPOSED CONDENSATE DRAIN PIPE		PROPOSED BLIND FLANGE
	PROPOSED CONDENSATE TANK		PROPOSED CONTROL VALVE
	PROPOSED HOPE REDUCER		CONTOUR AND ELEVATION
	PROPOSED HOPE TEE		PROPERTY BOUNDARY (APPROX.)
	PROPOSED HOPE REDUCING TEE		CHANGE IN HEADER SLOPE DIRECTION

[illegible]

CONTROL COPY NO.

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05-11-88	11:15	344		
05-11-88	11:45			



Waste Management, Inc.  
Environmental Engineering Group

PROJECT SUNBEAM ROAD  
LGMS No. 03560

SHEET

PAGE

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SUBJECT: FLARE EMISSION CALCULATIONS  
MCGILL - BFT-10 FLARE

PREPARED BY  
KAA

CHECKED BY  
TAS

REVISED BY

7/5/88

7/5/88

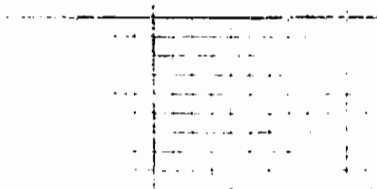
1/1


GIVEN:

COMPONENT	CONCENTRATION (V/V)	MOLECULAR WEIGHT (lb/lb.mole)	DENSITY (lb/ft <sup>3</sup> )
CH <sub>4</sub>	50 %	16.0	0.0416
CO <sub>2</sub>	38 %	44.0	0.1140
CO	—	28.0	0.0726
N <sub>2</sub>	10.5 %	28.0	0.0728
O <sub>2</sub>	1.5 %	32.0	0.0830
H <sub>2</sub> O	—	18.0	0.0467
AIR	—	29.0	0.0753
	<u>100.0 %</u>		

FLOW RATE: 1200 CFM = 72,000 CFH

FLARE EFFICIENCY (MIN) = 98 %



 <b>Waste Management, Inc.</b> Environmental Engineering Group	PROJECT <u>Sunbeam Road</u>	SHEET <u>2</u> OF <u>10</u>	PAGE <u>2</u>
	<u>LGMS</u> No. <u>03500</u>		
SUBJECT: <u>Flare Emission Calculations</u>	PREPARED BY <u>KAA</u>	CHECKED BY <u>TJS</u>	REVISED BY
<u>McGill - BFT-10 Flare</u>	<u>7/5/88</u>	<u>7/5/88</u>	<u>1/1</u>

### LANDFILL GAS DENSITY:

BASIS: 100 (ft<sup>3</sup>) of LFG: DRY ANALYSIS

COMPONENT	CONCENTRATION	VOLUME X DENSITY = CONTRIBUTION
CH <sub>4</sub>	50 %	50.0 (ft <sup>3</sup> ) x 0.0416 (lb/ft <sup>3</sup> ) = 2.0800 (lb)
CO <sub>2</sub>	38 %	38.0 (ft <sup>3</sup> ) x 0.1140 (lb/ft <sup>3</sup> ) = 4.3320 (lb)
N <sub>2</sub>	10.5 %	10.5 (ft <sup>3</sup> ) x 0.0728 (lb/ft <sup>3</sup> ) = 0.7644 (lb)
O <sub>2</sub>	1.5 %	1.5 (ft <sup>3</sup> ) x 0.0830 (lb/ft <sup>3</sup> ) = 0.1245 (lb)
		<u>7.3009 (lb)</u>

$$\text{DENSITY OF LFG} = \frac{7.3009 \text{ (lb)}}{100 \text{ (ft}^3\text{)}} = 0.0730 \text{ (lb/ft}^3\text{)}$$

### WATER VAPOR CONTENT:

SATURATED AT 14.7 (PSIA) AND 100°F

$$** 3100 \text{ (lb/MMCF)} \text{ H}_2\text{O} = 0.31 \text{ (lb/100 ft}^3\text{)} \text{ LFG}$$

COMPONENT	CONTRIBUTION	÷ DENSITY = VOLUME	(WET ANALYSIS) CONCENTRATION
CH <sub>4</sub>	2.0800 (lb)	÷ 0.0416 (lb/ft <sup>3</sup> ) = 50.0 (ft <sup>3</sup> )	46.9 %
CO <sub>2</sub>	4.3320 (lb)	÷ 0.1140 (lb/ft <sup>3</sup> ) = 38.0 (ft <sup>3</sup> )	35.6 %
N <sub>2</sub>	0.7644 (lb)	÷ 0.0728 (lb/ft <sup>3</sup> ) = 10.5 (ft <sup>3</sup> )	9.8 %
O <sub>2</sub>	0.1245 (lb)	÷ 0.0830 (lb/ft <sup>3</sup> ) = 1.5 (ft <sup>3</sup> )	1.4 %
H <sub>2</sub> O	0.3100 (lb)	÷ 0.0467 (lb/ft <sup>3</sup> ) = 6.64 (ft <sup>3</sup> )	6.3 %
		<u>106.64 (ft<sup>3</sup>)</u>	<u>100.0 %</u>

\*\* FROM WATER VAPOR CONTENT OF NATURAL GAS AT SATURATION (ATTACHED)





Waste Management, Inc.  
Environmental Engineering Group

PROJECT SUNBEAM ROAD  
LGMS No. 03560

SHEET

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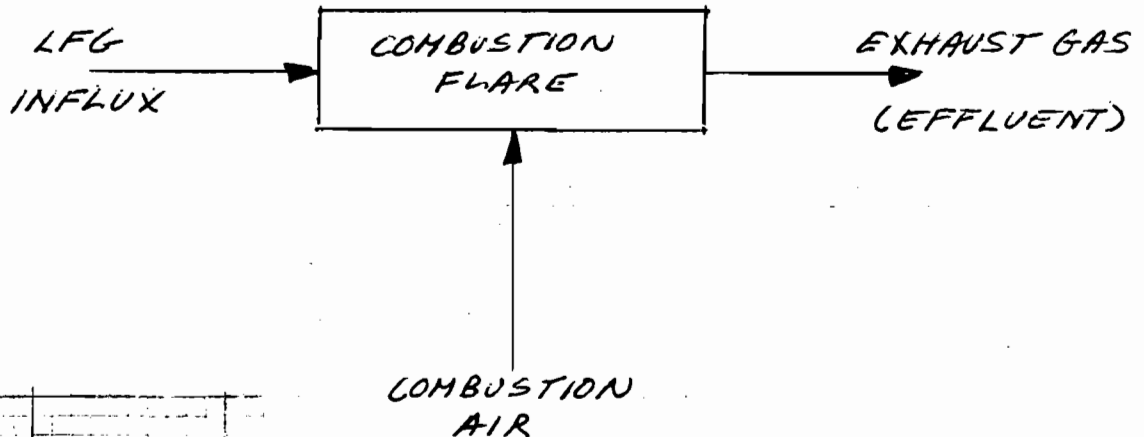
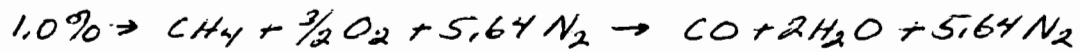
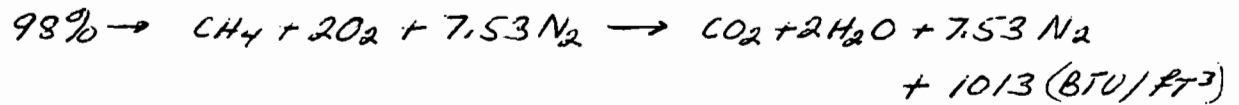
SUBJECT: FLARE EMISSION CALCULATION  
MCGILL - BFT-10 FLARE

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7/5/88

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EQUATIONS FOR COMBUSTION ASSUMING  
98 PERCENT EFFICIENCY





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PROJECT Sunbeam Road  
LGMS No. 03560

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SUBJECT: FLARE EMISSION CALCULATIONS  
McGill - BFT-10 Flare

PREPARED BY  
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7/5/88

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1/1

### INFLUX GASES:

1)  $CH_4 = 46.9\%$

$$0.4690 \times 72000 (ft^3/hr) \times 0.0416 (lb/ft^3) \left[ \frac{1 (lb.mole)}{16.0 (lb)} \right] = 87.7968 (lb.mole/hr) CH_4$$

2)  $CO_2 = 35.6\%$

$$0.3560 \times 72000 (ft^3/hr) \times 0.1140 (lb/ft^3) \left[ \frac{1 (lb.mole)}{44.0 (lb)} \right] = 66.4102 (lb.mole/hr) CO_2$$

3)  $N_2 = 9.8\%$

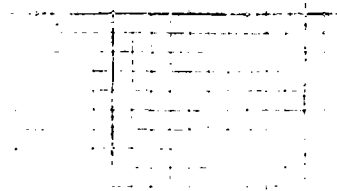
$$0.0980 \times 72000 (ft^3/hr) \times 0.0728 (lb/ft^3) \left[ \frac{1 (lb.mole)}{28.0 (lb)} \right] = 18.3456 (lb.mole/hr) N_2$$

4)  $O_2 = 1.4\%$

$$0.0140 \times 72000 (ft^3/hr) \times 0.0830 (lb/ft^3) \left[ \frac{1 (lb.mole)}{32.0 (lb)} \right] = 2.6145 (lb.mole/hr) O_2$$

5)  $H_2O = 6.3\%$

$$0.0630 \times 72000 (ft^3/hr) \times 0.0467 (lb/ft^3) \left[ \frac{1 (lb.mole)}{18.0 (lb)} \right] = 11.7684 (lb.mole/hr) H_2O$$





SUBJECT: Flare Emission Calculation

McGill-BFT-10 Flare

PREPARED BY

KAA

CHECKED BY

1/1

REVISED BY

1/1

COMBUSTION AIR :

ASSUME 0.0% EXCESS AVAILABLE O<sub>2</sub>

REQUIRED O<sub>2</sub> for complete combustion (100% EFFICIENCY)

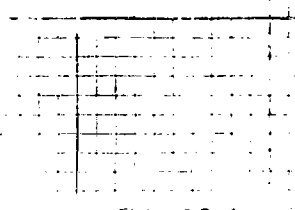
$$87.7968 \text{ (lb.mole/hr)} \text{ CH}_4 \times \left[ \frac{2 \text{ (lb.mole) O}_2}{1 \text{ (lb.mole) CH}_4} \right] = \frac{175.5936 \text{ (lb.mole/hr) O}_2}{\text{(REQUIRED)}}$$

AVAILABLE N<sub>2</sub> From Air (79 N<sub>2</sub> TO 21 O<sub>2</sub> RATIO)


$$175.5936 \text{ (lb.mole/hr) O}_2 \times \left[ \frac{79 \text{ N}_2}{21 \text{ O}_2} \right] = \frac{660.5664 \text{ (lb.mole/hr) N}_2}{\text{(AVAILABLE)}}$$

\* AVAILABLE COMBUSTION AIR

$$\begin{aligned} 175.5936 \text{ (lb.mole/hr) O}_2 + 660.5664 \text{ (lb.mole/hr) N}_2 \\ = 836.1600 \text{ (lb.mole/hr) AIR} \end{aligned}$$



\* ASSUME AVAILABLE AIR HUMIDITY = 0.0%

 <b>Waste Management, Inc.</b> Environmental Engineering Group	PROJECT <u>Sunbeam Road</u> <u>LGMS</u> No. _____		SHEET <u>6 OF 10</u>	PAGE <u>6</u>
	SUBJECT: <u>Flare Emission Calculations</u> <u>McGill - BFT-10 Flare</u>		PREPARED BY <u>KAA</u> <u>7/5/88</u>	CHECKED BY <u>TAT</u> <u>7/5/88</u>

### PRODUCED GASES:

1)  $\text{CO}_2$  (98.0%)

$$0.980 \times 87.7968 (\text{lb.mole/hr}) \text{CH}_4 \times \left[ \frac{1 (\text{lb.mole}) \text{CO}_2}{1 (\text{lb.mole}) \text{CH}_4} \right] = 86.0409 (\text{lb.mole/hr}) \text{CO}_2$$

2)  $\text{CO}$  (1.0%)

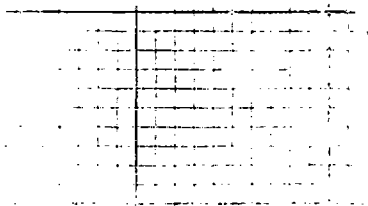
$$0.010 \times 87.7968 (\text{lb.mole/hr}) \text{CH}_4 \times \left[ \frac{1 (\text{lb.mole}) \text{CO}}{1 (\text{lb.mole}) \text{CH}_4} \right] = 0.8779 (\text{lb.mole/hr}) \text{CO}$$


3)  $\text{H}_2\text{O}$  (98.0%)

$$0.980 \times 87.7968 (\text{lb.mole/hr}) \text{CH}_4 \times \left[ \frac{2 (\text{lb.mole}) \text{H}_2\text{O}}{1 (\text{lb.mole}) \text{CH}_4} \right] = 172.0817 (\text{lb.mole/hr}) \text{H}_2\text{O}$$

4)  $\text{H}_2\text{O}$  (1.0%)

$$0.010 \times 87.7968 (\text{lb.mole/hr}) \text{CH}_4 \times \left[ \frac{2 (\text{lb.mole}) \text{H}_2\text{O}}{1 (\text{lb.mole}) \text{CH}_4} \right] = 1.7559 (\text{lb.mole/hr}) \text{H}_2\text{O}$$



 <b>Waste Management, Inc.</b> Environmental Engineering Group	PROJECT <u>Sunbeam Road</u> <u>LGMS</u> No.		SHEET <u>7</u> OF <u>10</u>	PAGE <u>7</u>
	SUBJECT: <u>FLARE EMISSION CALCULATIONS</u> <u>McGILL-BFT-10 FLARE</u>		PREPARED BY <u>KAA</u> <u>7/5/88</u>	CHECKED BY <u>TJS</u> <u>7/5/88</u>

### CONSUMED GASES:

1)  $O_2$  (98.09%)

$$0.980 \times 87.7968 (\text{lb.mole/hr}) CH_4 \times \left[ \frac{2 (\text{lb.mole}) O_2}{1 (\text{lb.mole}) CH_4} \right] = 172.0817 (\text{lb.mole/hr}) O_2$$

2)  $O_2$  (1.09%)

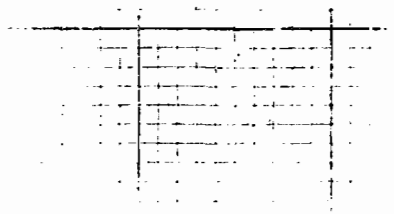
$$0.010 \times 87.7968 (\text{lb.mole/hr}) CH_4 \times \left[ \frac{3/2 (\text{lb.mole}) O_2}{1 (\text{lb.mole}) CH_4} \right] = 1.3169 (\text{lb.mole/hr}) O_2$$

3)  $CH_4$  (98.09%)

$$0.980 \times 87.7968 (\text{lb.mole/hr}) CH_4 \times \left[ \frac{1 (\text{lb.mole}) CH_4}{1 (\text{lb.mole}) CH_4} \right] = 86.0408 (\text{lb.mole/hr}) CH_4$$

4)  $CH_4$  (1.09%)

$$0.010 \times 87.7968 (\text{lb.mole/hr}) CH_4 \times \left[ \frac{1 (\text{lb.mole}) CH_4}{1 (\text{lb.mole}) CH_4} \right] = 0.8779 (\text{lb.mole/hr}) CH_4$$





SUBJECT: Flare Emission Calculations  
McGill-BFT-10 Flare

PREPARED BY  
KAA  
7/5/88

CHECKED BY  
TJJ  
7/5/88

REVISED BY  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

EXHAUST GASES:

1)  $CH_4 \text{ BALANCE} = \text{INFLUX } CH_4 - \text{CONSUMED } CH_4$

$$87.7968 (\text{lb. mole/hr}) CH_4 - [86.0408 + 0.8779] (\text{lb. mole/hr}) CH_4 \\ = \underline{0.8781 (\text{lb. mole/hr}) CH_4}$$

2)  $CO_2 \text{ BALANCE} = \text{INFLUX } CO_2 + \text{PRODUCED } CO_2$

$$66.4102 (\text{lb. mole/hr}) CO_2 + 86.0409 (\text{lb. mole/hr}) CO_2 \\ = \underline{152.4511 (\text{lb. mole/hr}) CO_2}$$

3)  $CO \text{ BALANCE} = CO \text{ Produced}$

$$= \underline{0.8779 (\text{lb. mole/hr}) CO}$$

4)  $N_2 \text{ BALANCE} = \text{INFLUX } N_2 + \text{COMBUSTION AIR } N_2$

$$18.3456 (\text{lb. mole/hr}) N_2 + 660.5664 (\text{lb. mole/hr}) N_2 \\ = \underline{678.9120 (\text{lb. mole/hr}) N_2}$$

5)  $O_2 \text{ BALANCE} = \text{INFLUX } O_2 + \text{COMBUSTION } O_2 \\ - \text{CONSUMED } O_2$

$$2.645 (\text{lb. mole/hr}) O_2 + 175.5936 (\text{lb. mole/hr}) O_2 \\ - [172.0817 + 1.3169] (\text{lb. mole/hr}) O_2 \\ = \underline{4.8095 (\text{lb. mole/hr}) O_2}$$

6)  $H_2O \text{ BALANCE} = \text{INFLUX } H_2O + \text{PRODUCED } H_2O$

$$11.7684 (\text{lb. mole/hr}) H_2O + [172.0817 + 1.7559] (\text{lb. mole/hr}) H_2O \\ = \underline{185.6060 (\text{lb. mole/hr}) H_2O}$$



Waste Management, Inc.  
Environmental Engineering Group

PROJECT Sunbeam Road

LGMS No. 035CO

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SUBJECT: Flare Emission Calculation

PREPARED BY  
KAA

CHECKED BY  
TAS

REVISED BY

McGill - BFT-10 Flare

7/5/88

7/5/88

1 / 1

### FLARE EMISSION SUMMARY

#### INFLUX GASES

COMPONENT	CONCENTRATION (V/V)	WEIGHT FLOW RATE (lb/hr)	VOLUMETRIC FLOW RATE (CFH)
CH <sub>4</sub>	46.9 %	1404.75	33768.0
CO <sub>2</sub>	35.6 %	2922.05	25632.0
N <sub>2</sub>	9.8 %	513.68	7056.0
O <sub>2</sub>	1.4 %	83.66	1008.0
H <sub>2</sub> O	6.3 %	211.83	4536.0

#### EXHAUST GASES:

COMPONENT	CONCENTRATION (V/V)	WEIGHT FLOW RATE (lb/hr)	VOLUMETRIC FLOW RATE (CFH)
CH <sub>4</sub>	0.086 %	14.05	337.74
CO <sub>2</sub>	14.933 %	6707.85	58840.79
CO	0.086 %	24.58	338.57
N <sub>2</sub>	66.269 %	19009.54	261120.05
O <sub>2</sub>	0.471 %	153.90	1854.22
H <sub>2</sub> O	18.156 %	3340.91	71539.83
	100.000 %		394031.20 CFH

Sunbeam Road  
Flare Emission Calculations  
McGill-BFT-10 Flare  
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WATER VAPOR CONTENT  
CF NATURAL GAS  
AT SATURATION

TEMPERATURE RANGE -60°F TO 250°F  
PRESSURE RANGE 50 PSIA TO 6000 PSIA



LOVE PROCESS ENGINEERING, INC.  
TULSA, OKLAHOMA

