

PERMIT DATA FORM

CHECK IF NEW: _____

MOD NEW RENEWAL

SITE WAFR # AIR # 0950113

SITE/WAFER/FACILITY NAME: Solid Waste Mgmt. Fac Orange Cty

PROJECT NAME: Flare

DESC: _____

TYPE CODE: AC

SUBCODE: 60

CHECK IF GP EXEMPT NPDES

CORRECT FEE: - ① -

PROCESSOR: JT

AMOUNT RCV'D: - 0 -

AMOUNT REFUND: _____

MONIES DUE: _____



Florida Department of Environmental Protection

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

NOTICE OF PERMIT

E-CORRESPONDENCE

jim.becker@ocfl.net

Orange County Board of County Commissioners
Solid Waste Division
5901 Young Pine Road
Orlando, FL 32829

Attention: James W. Becker, Division Manager

Orange County - AP
Landfill Gas Collection System (Cells 9-12) and a Candlestick Flare
DEP File Number: 0950113-005-AC

Dear Mr. Becker:

Enclosed is Permit Number 0950113-005-AC to construct the above referenced source issued pursuant to Section(s) 403.087, Florida Statutes (F.S.).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68 F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the permitting authority in the Legal Office; 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 (thirty) days from the date this Notice is filed with the Clerk of the permitting authority.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Caroline Shine
Program Administrator
Air Resource Management

Date: 12/1/09

CS/jr/jt

Copy: Mehran S. Beladi, P.E. (ron.beladi@neel-schaffer.com)

Jodi Dittell, Air Section Manager, OCEPD, (Jodi.Dittell@ocfl.net)

Dan R. Morrical, P.E., Chief Engineer, Orange County Solid Waste Division, (Dan.Morrical@ocfl.net)

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

J. H. Agner 12/2/09
Clerk Date

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT ISSUANCE and all copies were mailed before the close of business on 12/2/09 to the listed persons, by J. H. Agner



Florida Department of Environmental Protection

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

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PERMIT

E-CORRESPONDENCE

jim.becker@ocfl.org

PERMITTEE

Orange County Board of County Commissioners
Solid Waste Division
5901 Young Pine Road
Orlando, FL 32829

Authorized Representative:
James W. Becker, Division Manager

Air Permit No. 0950113-005-AC
Permit Expires: December 30, 2010

Orange County Solid Waste
Management Facility
Major Source Air Construction Permit
Landfill Gas Collection System (Cells
9 -12) and a Candlestick Flare

This is an air construction permit which authorizes construction of a Landfill Gas Collection System (Cells 9 - 12) and a Candlestick Flare. The proposed work will be conducted at the Orange County Solid Waste Management Facility, which is a municipal solid waste disposal facility (Standard Industrial Classification No. 4953). The facility is located in Orange County at 5901 Young Pine Road, Orlando, Florida. The UTM coordinates are Zone 17, 481.20 km East, and 3150.30 km North.

This permit is organized by the following sections.

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Unit Specific Conditions
- Section 4. Appendices

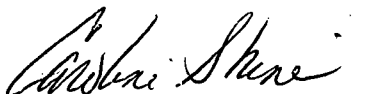
Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) 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 must be filed within 30 days after this order is filed with the clerk of the Department.

AIR CONSTRUCTION PERMIT

Executed in Orlando, Florida



Caroline Shine
Program Administrator
Air Resource Management

12/1/09
Date

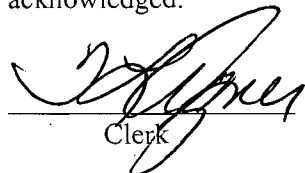
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Air Permit package was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on 12/2/09 to the persons listed below.

- James W. Becker, Division Manager (**jim.becker@ocfl.org**)
- Mehran S. Beladi, P.E. (**ron.beladi@neel-schaffer.com**)
- Jodi Dittell, Air Section Manager, OCEPD, (**Jodi.Dittell@ocfl.net**)
- Dan R. Morrival, P.E., Chief Engineer, Orange County Solid Waste Division, (**Dan.Morrival@ocfl.net**)

Clerk Stamp

FILED on this date, pursuant to Section 120.52 F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

 12/2/09
Clerk Date

SECTION 1. GENERAL INFORMATION

FACILITY AND PROJECT DESCRIPTION

Existing Facility

The facility is the Orange County Solid Waste Management Facility which is a municipal solid waste disposal facility. The existing facility consists of the following emissions units.

Facility ID No. 0840124	
ID No.	Emission Unit Description
001	Municipal Solid Waste Landfill with Candlestick Flares

Proposed Project

Construct a Landfill Gas Collection System (Cells 9 – 12) with a Candlestick Flare. This project will add the following emissions unit.

Facility ID No. 0830124	
ID No.	Emission Unit Description
002	Landfill Gas Collection System (Cells 9 – 12) with a Candlestick Flare

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection, Central District Office. The Central District Office's mailing address is 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803-3767. The phone numbers for Permitting Section are 407-893-3335 or 407-893-3334. All documents related to applications for permits to operate an emissions unit shall be submitted to the Central District Office.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Central District Office. The mailing address of the Central District Office is: 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803-3767. The phone number for Compliance Section is 407-893-3333.
3. Appendices: The following Appendices are attached as part of this permit:
 - a. Appendix A. Citation Formats and Glossary of Common Terms;
 - b. Appendix B. General Conditions;
 - c. Appendix C. Common Conditions; and
 - d. Appendix D. Common Testing Requirements.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation:
 - (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
 - (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS

8. Application for Title V Permit Revision: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A **Title V** air operation permit *revision* is required for regular operation of the permitted emissions unit. The permittee shall apply for a **Title V** air operation permit *revision* at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. **The expiration date of this construction permit is December 30, 2010.** To apply for a **Title V** operation permit *revision*, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	Landfill Gas Collection System (Cells 9 – 12) with a Candlestick Flare

PERFORMANCE RESTRICTIONS

1. Permitted Capacity: The average landfill gas flow rate to the candlestick flare shall not exceed 3,400 scfm. [Rule 62-210.200(PTE), F.A.C. and as requested by the applicant]
2. Restricted Operation: The hours of operation of the candlestick flare are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
3. Landfill gas must be flared in accordance with the requirements of 40 CFR 60, Subpart WWW. [Rule 62-4.070, F.A.C.]

EMISSIONS STANDARDS

4. Emissions Standards: The visible emission limitation for the flare must comply with 40 CFR 60.18 (no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours). [40 CFR 60.18(b)]

TESTING REQUIREMENTS

5. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for visible emissions. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. [Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]
6. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(7)(a)4, F.A.C.]
7. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]
8. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
EPA 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares

The observation period is 2 hours.

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800 and 62-297.100, F.A.C., 40 CFR 60.18(f)(1), and Appendix A of 40 CFR 60]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

9. The flare control system shall be operated with a flame present at all times, as determined by a thermocouple or any other equivalent device to detect the presence of a flame. 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.
[40 CFR 60.18(b) through (f) and 40 CFR 60.18(d)]

RECORDS AND REPORTS

10. **Test Reports:** The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also **indicate the potential and actual fugitive emission points on the sketch. Additionally, sketch the process unit being observed, and note the observer location relative to the source.** [Rule 62-297.310(8), F.A.C.]
11. **Operational Data:** In order to demonstrate compliance with specific condition number 1 and pursuant to Rule 62-4.070(3), F.A.C., the permittee shall maintain a monthly log at the facility for a period of at least five years from the date the data is recorded. The log shall contain the following:
- Designation of the day, month, and year of operation for which the records are being tabulated; and
 - Hourly landfill gas glow rate to the flare.

NSPS & NESHAP REQUIREMENTS

12. This emission unit is subject to the applicable requirements of 40 CFR 60, Subpart A, General Provisions, 40 CFR 60, Subpart WWW, NSPS for Municipal Solid Waste Landfills and 40 CFR 63, Subpart AAAA, NESHAP for Municipal Solid Waste Landfills.

SECTION 4. APPENDICES

Contents

- Appendix A. Citation Formats and Glossary of Common Terms
- Appendix B. General Conditions
- Appendix C. Common Conditions
- Appendix D. Common Testing Requirements

SECTION 4. APPENDIX A

Citation Formats and Glossary of Common Terms

CITATION FORMATS

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

Old Permit Numbers

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: “AC” identifies the permit as an Air Construction Permit
“AO” identifies the permit as an Air Operation Permit
“123456” identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: “099” represents the specific county ID number in which the project is located
“2222” represents the specific facility ID number for that county
“001” identifies the specific permit project number
“AC” identifies the permit as an air construction permit
“AF” identifies the permit as a minor source federally enforceable state operation permit
“AO” identifies the permit as a minor source air operation permit
“AV” identifies the permit as a major Title V air operation permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: “PSD” means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality
“FL” means that the permit was issued by the State of Florida
“317” identifies the specific permit project number

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit

AAQS: Ambient Air Quality Standard

acf: actual cubic feet

acfm: actual cubic feet per minute

ARMS: Air Resource Management System (DEP database)

BACT: best available control technology

bhp: brake horsepower

Btu: British thermal units

CAM: compliance assurance monitoring

CEMS: continuous emissions monitoring system

cfm: cubic feet per minute

SECTION 4. APPENDIX A
Citation Formats and Glossary of Common Terms

CFR: Code of Federal Regulations	MW: megawatt	NESHAP: National Emissions Standards for Hazardous Air Pollutants
CAA: Clean Air Act	NO_x: nitrogen oxides	
CMS: continuous monitoring system	NSPS: New Source Performance Standards	
CO: carbon monoxide	O&M: operation and maintenance	
CO₂: carbon dioxide	O₂: oxygen	
COMS: continuous opacity monitoring system	Pb: lead	
DARM: Division of Air Resource Management	PM: particulate matter	
DEP: Department of Environmental Protection	PM₁₀: particulate matter with a mean aerodynamic diameter of 10 microns or less	
Department: Department of Environmental Protection	ppm: parts per million	
dscf: dry standard cubic feet	ppmv: parts per million by volume	
dscfm: dry standard cubic feet per minute	ppmvd: parts per million by volume, dry basis	
EPA: Environmental Protection Agency	QA: quality assurance	
ESP: electrostatic precipitator (control system for reducing particulate matter)	QC: quality control	
EU: emissions unit	PSD: prevention of significant deterioration	
F.A.C.: Florida Administrative Code	psi: pounds per square inch	
F.A.W.: Florida Administrative Weekly	PTE: potential to emit	
F.D.: forced draft	RACT: reasonably available control technology	
F.S.: Florida Statutes	RATA: relative accuracy test audit	
FGD: flue gas desulfurization	RBLC: EPA's RACT/BACT/LAER Clearinghouse	
FGR: flue gas recirculation	SAM: sulfuric acid mist	
Fl: fluoride	scf: standard cubic feet	
ft²: square feet	scfm: standard cubic feet per minute	
ft³: cubic feet	SIC: standard industrial classification code	
gpm: gallons per minute	SIP: State Implementation Plan	
gr: grains	SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)	
HAP: hazardous air pollutant	SO₂: sulfur dioxide	
Hg: mercury	TPD: tons/day	
I.D.: induced draft	TPH: tons per hour	
ID: identification	TPY: tons per year	
kPa: kilopascals	TRS: total reduced sulfur	
lb: pound	UTM: Universal Transverse Mercator coordinate system	
MACT: maximum achievable technology	VE: visible emissions	
MMBtu: million British thermal units	VOC: volatile organic compounds	
MSDS: material safety data sheets		

SECTION 4. APPENDIX B

General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are “permit conditions” and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of noncompliance; and
 - b. The period of noncompliance, including 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 for revocation of this permit.
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

SECTION 4. APPENDIX B

General Conditions

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. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (not applicable);
 - b. Determination of Prevention of Significant Deterioration (not applicable); and
 - c. Compliance with New Source Performance Standards (applicable).
14. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - (a) The date, exact place, and time of sampling or measurements;
 - (b) The person responsible for performing the sampling or measurements;
 - (c) The dates analyses were performed;
 - (d) The person responsible for performing the analyses;
 - (e) The analytical techniques or methods used;
 - (f) 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 the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SECTION 4. APPENDIX C

Common Conditions

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed 2 hours in any 24-hour period unless specifically authorized by the Department for longer duration. Pursuant to Rule 62-210.700(5), F.A.C., the permit subsection may specify more or less stringent requirements for periods of excess emissions. Rule 62-210-700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(1), F.A.C.]
4. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]
8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

RECORDS AND REPORTS

10. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
11. Emissions Computation and Reporting:
 - a. Applicability: This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance

SECTION 4. APPENDIX C

Common Conditions

with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

- b. *Computation of Emissions.* For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.
- (1) **Basic Approach.** The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.
 - (a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
 - (b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
 - (c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
 - (2) **Continuous Emissions Monitoring System (CEMS).**
 - (a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
 - 1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or
 - 2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.
 - (b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
 - 1) A calibrated flow meter that records data on a continuous basis, if available; or
 - 2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
 - (c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.
 - (3) **Mass Balance Calculations.**
 - (a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
 - 1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and

SECTION 4. APPENDIX C

Common Conditions

- 2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.
 - (b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
 - (c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.
- (4) Emission Factors.
- a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.
 - 1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
 - 2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
 - 3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.
 - b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.
- (5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.
- (6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.
- (7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.
- (8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the

SECTION 4. APPENDIX C

Common Conditions

department for any regulatory purpose.

[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

- (1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:
 - a. All Title V sources.
 - b. All synthetic non-Title V sources.
 - c. All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area.
 - d. All facilities for which an annual operating report is required by rule or permit.
- (2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.
- (3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following year, except that the annual operating report for year 2008 shall be submitted by May 1, 2009. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.
- (4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.
- (5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]

SECTION 4. APPENDIX D
Common Testing Requirements

Unless otherwise specified in the permit, the following testing requirements apply to all emissions units at the facility.

COMPLIANCE TESTING REQUIREMENTS

1. **Operating Rate During Testing:** Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]
2. **Applicable Test Procedures - Opacity Compliance Tests:** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
[Rule 62-297.310(4), F.A.C.]
3. **Determination of Process Variables:**
 - a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
 - b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]
4. **Frequency of Compliance Tests:** The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.
 - a. *General Compliance Testing.*
 1. The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.
 2. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air

SECTION 4. APPENDIX D
Common Testing Requirements

operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

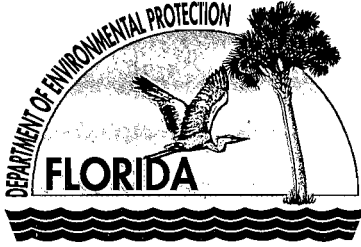
- (a) Did not operate; or
 - (b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,
3. During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for visible emissions, if there is an applicable standard.
 4. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
- b. *Special Compliance Tests.* When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

[Rule 62-297.310(7), F.A.C.]

RECORDS AND REPORTS

5. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report shall provide the following information.
 - a. The type, location, and designation of the emissions unit tested.
 - b. The facility at which the emissions unit is located.
 - c. The owner or operator of the emissions unit.
 - d. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 - e. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - f. The date, starting time and end time of the observation.
 - g. The test procedures used.
 - h. The names of individuals who furnished the process variable data, conducted the test, and prepared the report.
 - i. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
 - j. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]



Florida Department of Environmental Protection

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

E-CORRESPONDENCE

jim.becker@ocfl.net

James W. Becker, Division Manager
Orange County Solid Waste Department
5901 Young Pine Road
Orlando, FL 32829

Re: Project No. 0950113-005-AC
Construct a Landfill Gas Collection System (Cells 9 – 12) and a Candlestick Flare
Major Air Construction Permit

Dear Mr. Becker:

On August 28, 2009, you submitted an application to construct a Landfill Gas Collection System (Cells 9 – 12) and a Candlestick Flare at the Orange County Solid Waste Management Facility. This facility is located in Orange County at 5901 Young Pine Road, Orlando, Florida. Enclosed are the following documents: the Technical Evaluation and Preliminary Determination; the Draft Permit and Appendices, if applicable; the Written Notice of Intent to Issue Air Permit; and the Public Notice of Intent to Issue Air Permit. The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the project engineer, John Turner, at 407-894-7555.

Sincerely,

Caroline Shine
Program Administrator
Air Resource Management

11/10/09

Date

CS/jr/jt
Enclosures

Copy: Mehran S. Beladi, P.E. (ron.beladi@neel-schaffer.com)
Jodi Dittell, Air Section Manager, OCEPD, (Jodi.Dittell@ocfl.net)
Dan R. Morrical, P.E., Chief Engineer, Orange County Solid Waste Division, (Dan.Morrical@ocfl.net)

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

*In the Matter of an
Application for Air Permit by:*

Orange County Board of County Commissioners, Solid Waste Division
5901 Young Pine Road
Orlando, FL 32829

Authorized Representative:
James W. Becker, Manager

Project No. 0950113-005-AC
Major Air Construction Permit
Orange County Solid Waste
Management Facility
Orange County, Florida
Landfill Gas Collection System
(Cells 9 – 12) and a Candlestick
Flare

Facility Location: Orange County Board of County Commissioners operates the existing Orange County Solid Waste Management Facility located at 5901 Young Pine Road in Orlando, Orange County, Florida.

Project: The applicant proposes to construct a Landfill Gas Collection System (Cells 9 – 12) and a Candlestick Flare. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Department of Environmental Protection's Air Resource Section in the Central District Office. The Permitting Authority's physical address is: 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803. The Permitting Authority's mailing address is: : 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803. The Permitting Authority's telephone number is 406/894-7555.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241). Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

Executed in Orlando, Florida.

Caroline Shine
Program Administrator
Air Resource Management

Date

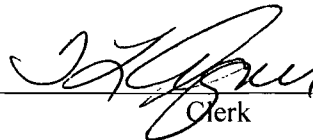
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on 11/12/2009 to the persons listed below.

Copy: Mehran S. Beladi, P.E. (**ron.beladi@neel-schaffer.com**)
Jodi Dittell, Air Section Manager, OCEPD, (**Jodi.Dittell@ocfl.net**)
Dan R. Morrical, P.E., Chief Engineer, Orange County Solid Waste Division, (**Dan.Morrical@ocfl.net**)

Clerk Stamp

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.



Clerk

11/12/2009
Date

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

Florida Department of Environmental Protection
Air Resource Section, Central District Office
Draft Major Source Air Construction Permit
Project No. 0950113-005-AC
Orange County Board of County Commissioners, Solid Waste Division
Orange County Solid Waste Management Facility
Orange County, Florida

Applicant: The applicant for this project is Orange County Board of County Commissioners. The applicant's authorized representative and mailing address is: James W. Becker, Manager, Orange County Board of County Commissioners, Solid Waste Division, 5901 Young Pine Road, Orlando, FL 32829.

Facility Location: Orange County Board of County Commissioners operates the existing Orange County Solid Waste Management Facility which is located at 5901 Young Pine Road, Orlando, Orange County, Florida.

Project: The purpose of the construction permit is to construct a Landfill Gas Collection System (Cells 9-12) and a Candlestick Flare. This facility is a source of air emissions.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Department of Environmental Protection's Air Resource Section in the Central District Office. The Permitting Authority's physical address is: 3310 Maguire Blvd., Suite 232, Orlando, Florida 32803. The Permitting Authority's mailing address is: 3310 Maguire Blvd., Suite 232, Orlando, Florida 32803. The Permitting Authority's telephone number is 407/894-7555.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the physical address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application and information submitted by the applicant (exclusive of confidential records under Section 403.111, F.S.). Interested persons may contact the Permitting Authority's project engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site: <http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air construction permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of this Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241). Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of this Public

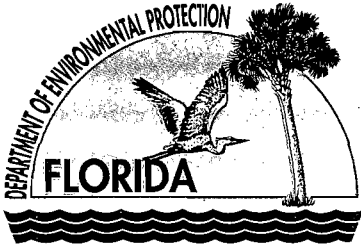
(Public Notice to be Published in the Newspaper)

Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address and telephone number of the petitioner; the name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.



Florida Department of Environmental Protection

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

DRAFT PERMIT

E-CORRESPONDENCE

jim.becker@ocfl.org

PERMITTEE

Orange County Board of County Commissioners
Solid Waste Division
5901 Young Pine Road
Orlando, FL 32829

Authorized Representative:
James W. Becker, Division Manager

Air Permit No. 0950113-005-AC
Permit Expires: December 30, 2010

Orange County Solid Waste
Management Facility
Major Source Air Construction Permit
Landfill Gas Collection System (Cells
9 -12) and a Candlestick Flare

This is a **DRAFT** air construction permit which authorizes construction of a Landfill Gas Collection System (Cells 9 -12) and a Candlestick Flare. The proposed work will be conducted at the Orange County Solid Waste Management Facility, which is a municipal solid waste disposal facility (Standard Industrial Classification No. 4953). The facility is located in Orange County at 5901 Young Pine Road, Orlando, Florida. The UTM coordinates are Zone 17, 481.20 km East, and 3150.30 km North.

This permit is organized by the following sections.

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Unit Specific Conditions
- Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) 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 must be filed within 30 days after this order is filed with the clerk of the Department.

AIR CONSTRUCTION PERMIT (DRAFT)

Executed in Orlando, Florida

Caroline Shine
Program Administrator
Air Resource Management

Date

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Air Permit package was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

James W. Becker, Division Manager (**jim.becker@ocfl.org**)

Mehran S. Beladi, P.E. (**ron.beladi@neel-schaffer.com**)

Jodi Dittell, Air Section Manager, OCEPD, (**Jodi.Dittell@ocfl.net**)

Dan R. Morrical, P.E., Chief Engineer, Orange County Solid Waste Division, (**Dan.Morrical@ocfl.net**)

Clerk Stamp

FILED on this date, pursuant to Section 120.52 F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

Date

SECTION 1. GENERAL INFORMATION (DRAFT)

FACILITY AND PROJECT DESCRIPTION

Existing Facility

The facility is the Orange County Solid Waste Management Facility which is a municipal solid waste disposal facility. The existing facility consists of the following emissions units.

Facility ID No. 0840124	
ID No.	Emission Unit Description
001	Municipal Solid Waste Landfill with Candlestick Flares

Proposed Project

Construct a Landfill Gas Collection System (Cells 9 – 12) with a Candlestick Flare. This project will add the following emissions unit.

Facility ID No. 0830124	
ID No.	Emission Unit Description
002	Landfill Gas Collection System (Cells 9 – 12) with a Candlestick Flare

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection, Central District Office. The Central District Office's mailing address is 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803-3767. The phone numbers for Permitting Section are 407-893-3335 or 407-893-3334. All documents related to applications for permits to operate an emissions unit shall be submitted to the Central District Office.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Central District Office. The mailing address of the Central District Office is: 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803-3767. The phone number for Compliance Section is 407-893-3333.
3. Appendices: The following Appendices are attached as part of this permit:
 - a. Appendix A. Citation Formats and Glossary of Common Terms;
 - b. Appendix B. General Conditions;
 - c. Appendix C. Common Conditions; and
 - d. Appendix D. Common Testing Requirements. (if applicable)
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation:
 - (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
 - (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

8. Application for Title V Permit Revision: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A **Title V** air operation permit *revision* is required for regular operation of the permitted emissions unit. The permittee shall apply for a **Title V** air operation permit *revision* at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. **The expiration date of this construction permit is December 30, 2010.** To apply for a **Title V** operation permit *revision*, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	Landfill Gas Collection System (Cells 9 – 12) with a Candlestick Flare

PERFORMANCE RESTRICTIONS

1. Permitted Capacity: The average landfill gas flow rate to the candlestick flare shall not exceed 3,400 scfm. [Rule 62-210.200(PTE), F.A.C. and as requested by the applicant]
2. Restricted Operation: The hours of operation of the candlestick flare are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
3. Landfill gas must be flared in accordance with the requirements of 40 CFR 60, Subpart WWW. [Rule 62-4.070, F.A.C.]

EMISSIONS STANDARDS

4. Emissions Standards: The visible emission limitation for the flare must comply with 40 CFR 60.18 (no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours). [40 CFR 60.18(b)]

TESTING REQUIREMENTS

5. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for visible emissions. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. [Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]
6. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(7)(a)4, F.A.C.]
7. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]
8. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
EPA 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares

The observation period is 2 hours.

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800 and 62-297.100, F.A.C., 40 CFR 60.18(f)(1), and Appendix A of 40 CFR 60]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

9. The flare control system shall be operated with a flame present at all times, as determined by a thermocouple or any other equivalent device to detect the presence of a flame. 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.
[40 CFR 60.18(b) through (f) and 40 CFR 60.18(d)]

RECORDS AND REPORTS

10. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also **indicate the potential and actual fugitive emission points on the sketch. Additionally, sketch the process unit being observed, and note the observer location relative to the source.** [Rule 62-297.310(8), F.A.C.]
11. Operational Data: In order to demonstrate compliance with specific condition number 1 and pursuant to Rule 62-4.070(3), F.A.C., the permittee shall maintain a monthly log at the facility for a period of at least five years from the date the data is recorded. The log shall contain the following:
- Designation of the day, month, and year of operation for which the records are being tabulated; and
 - Hourly landfill gas glow rate to the flare.

NSPS & NESHAP REQUIREMENTS

12. This emission unit is subject to the applicable requirements of 40 CFR 60, Subpart A, General Provisions, 40 CFR 60, Subpart WWW, NSPS for Municipal Solid Waste Landfills and 40 CFR 63, Subpart AAAA, NESHAP for Municipal Solid Waste Landfills.

SECTION 4. APPENDICES (DRAFT)

Contents

- Appendix A. Citation Formats and Glossary of Common Terms
- Appendix B. General Conditions
- Appendix C. Common Conditions
- Appendix D. Common Testing Requirements

SECTION 4. APPENDIX A (DRAFT)
Citation Formats and Glossary of Common Terms

CITATION FORMATS

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

Old Permit Numbers

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: "AC" identifies the permit as an Air Construction Permit
"AO" identifies the permit as an Air Operation Permit
"123456" identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: "099" represents the specific county ID number in which the project is located
"2222" represents the specific facility ID number for that county
"001" identifies the specific permit project number
"AC" identifies the permit as an air construction permit
"AF" identifies the permit as a minor source federally enforceable state operation permit
"AO" identifies the permit as a minor source air operation permit
"AV" identifies the permit as a major Title V air operation permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality
"FL" means that the permit was issued by the State of Florida
"317" identifies the specific permit project number

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit

AAQS: Ambient Air Quality Standard

acf: actual cubic feet

acfm: actual cubic feet per minute

ARMS: Air Resource Management System (DEP database)

BACT: best available control technology

bhp: brake horsepower

Btu: British thermal units

CAM: compliance assurance monitoring

CEMS: continuous emissions monitoring system

cfm: cubic feet per minute

SECTION 4. APPENDIX A (DRAFT)

Citation Formats and Glossary of Common Terms

CFR: Code of Federal Regulations	MW: megawatt	NESHAP: National Emissions Standards for Hazardous Air Pollutants
CAA: Clean Air Act	NO_x: nitrogen oxides	
CMS: continuous monitoring system	NSPS: New Source Performance Standards	
CO: carbon monoxide	O&M: operation and maintenance	
CO₂: carbon dioxide	O₂: oxygen	
COMS: continuous opacity monitoring system	Pb: lead	
DARM: Division of Air Resource Management	PM: particulate matter	
DEP: Department of Environmental Protection	PM₁₀: particulate matter with a mean aerodynamic diameter of 10 microns or less	
Department: Department of Environmental Protection	ppm: parts per million	
dscf: dry standard cubic feet	ppmv: parts per million by volume	
dscfm: dry standard cubic feet per minute	ppmvd: parts per million by volume, dry basis	
EPA: Environmental Protection Agency	QA: quality assurance	
ESP: electrostatic precipitator (control system for reducing particulate matter)	QC: quality control	
EU: emissions unit	PSD: prevention of significant deterioration	
F.A.C.: Florida Administrative Code	psi: pounds per square inch	
F.A.W.: Florida Administrative Weekly	PTE: potential to emit	
F.D.: forced draft	RACT: reasonably available control technology	
F.S.: Florida Statutes	RATA: relative accuracy test audit	
FGD: flue gas desulfurization	RBLC: EPA's RACT/BACT/LAER Clearinghouse	
FGR: flue gas recirculation	SAM: sulfuric acid mist	
Fl: fluoride	scf: standard cubic feet	
ft²: square feet	scfm: standard cubic feet per minute	
ft³: cubic feet	SIC: standard industrial classification code	
gpm: gallons per minute	SIP: State Implementation Plan	
gr: grains	SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)	
HAP: hazardous air pollutant	SO₂: sulfur dioxide	
Hg: mercury	TPD: tons/day	
I.D.: induced draft	TPH: tons per hour	
ID: identification	TPY: tons per year	
kPa: kilopascals	TRS: total reduced sulfur	
lb: pound	UTM: Universal Transverse Mercator coordinate system	
MACT: maximum achievable technology	VE: visible emissions	
MMBtu: million British thermal units	VOC: volatile organic compounds	
MSDS: material safety data sheets		

SECTION 4. APPENDIX B (DRAFT)

General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of noncompliance; and
 - b. The period of noncompliance, including 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 for revocation of this permit.
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

SECTION 4. APPENDIX B (DRAFT)

General Conditions

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. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (not applicable);
 - b. Determination of Prevention of Significant Deterioration (not applicable); and
 - c. Compliance with New Source Performance Standards (not applicable).
14. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - (a) The date, exact place, and time of sampling or measurements;
 - (b) The person responsible for performing the sampling or measurements;
 - (c) The dates analyses were performed;
 - (d) The person responsible for performing the analyses;
 - (e) The analytical techniques or methods used;
 - (f) 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 the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SECTION 4. APPENDIX C (DRAFT)

Common Conditions

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. **Excess Emissions Allowed:** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed 2 hours in any 24-hour period unless specifically authorized by the Department for longer duration. Pursuant to Rule 62-210.700(5), F.A.C., the permit subsection may specify more or less stringent requirements for periods of excess emissions. Rule 62-210-700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(1), F.A.C.]
4. **Excess Emissions Prohibited:** Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. **Excess Emissions - Notification:** In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
6. **VOC or OS Emissions:** No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. **Objectionable Odor Prohibited:** No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]
8. **General Visible Emissions:** No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. **Unconfined Particulate Emissions:** During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

RECORDS AND REPORTS

10. **Records Retention:** All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
11. **Emissions Computation and Reporting:**
 - a. **Applicability.** This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance

SECTION 4. APPENDIX C (DRAFT)

Common Conditions

with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

- b. *Computation of Emissions.* For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.
- (1) *Basic Approach.* The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.
- (a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
- (b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
- (c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
- (2) *Continuous Emissions Monitoring System (CEMS).*
- (a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
- 1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or
- 2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.
- (b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
- 1) A calibrated flow meter that records data on a continuous basis, if available; or
- 2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
- (c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.
- (3) *Mass Balance Calculations.*
- (a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
- 1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and

SECTION 4. APPENDIX C (DRAFT)

Common Conditions

- 2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.
 - (b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
 - (c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.
- (4) Emission Factors.
- a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.
 - 1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
 - 2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
 - 3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.
 - b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.
- (5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.
- (6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.
- (7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.
- (8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the

SECTION 4. APPENDIX C (DRAFT)

Common Conditions

department for any regulatory purpose.

[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

- (1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:
 - a. All Title V sources.
 - b. All synthetic non-Title V sources.
 - c. All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area.
 - d. All facilities for which an annual operating report is required by rule or permit.
- (2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.
- (3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following year, except that the annual operating report for year 2008 shall be submitted by May 1, 2009. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.
- (4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.
- (5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]

SECTION 4. APPENDIX D (DRAFT)

Common Testing Requirements

Unless otherwise specified in the permit, the following testing requirements apply to all emissions units at the facility.

COMPLIANCE TESTING REQUIREMENTS

1. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]
2. Applicable Test Procedures - Opacity Compliance Tests: When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.[Rule 62-297.310(4), F.A.C.]
3. Determination of Process Variables:
 - a. *Required Equipment*. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
 - b. *Accuracy of Equipment*. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.[Rule 62-297.310(5), F.A.C.]
4. Frequency of Compliance Tests: The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.
 - a. *General Compliance Testing*.
 1. The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.
 2. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air

SECTION 4. APPENDIX D (DRAFT)

Common Testing Requirements

operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

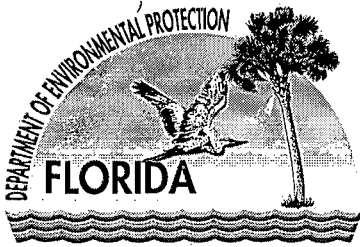
- (a) Did not operate; or
 - (b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,
3. During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for visible emissions, if there is an applicable standard.
 4. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
- b. *Special Compliance Tests.* When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

[Rule 62-297.310(7), F.A.C.]

RECORDS AND REPORTS

5. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report shall provide the following information.
 - a. The type, location, and designation of the emissions unit tested.
 - b. The facility at which the emissions unit is located.
 - c. The owner or operator of the emissions unit.
 - d. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 - e. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - f. The date, starting time and end time of the observation.
 - g. The test procedures used.
 - h. The names of individuals who furnished the process variable data, conducted the test, and prepared the report.
 - i. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
 - j. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

ELECTRONIC MAIL

Jim.Becker@ocfl.net

NOTICE OF FINAL TITLE V AIR OPERATION PERMIT

In the Matter of an
Application for Permit Renewal by:

James W. Becker, Manager
Orange County Solid Waste Division
Orange County Board of County Commissioners
5901 Young Pine Road
Orlando, Florida 32829

FINAL Permit Project No.: 0950113-004-AV
Orange County Solid Waste Management Facility

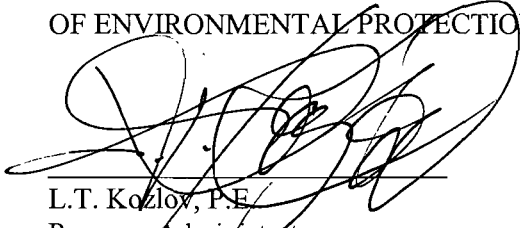
Dear Mr. Becker:

Enclosed is FINAL Permit, No. 0950113-004-AV. The purpose is for the renewal of the Title V Air Operation Permit. The facility is located in Orange County. This permit renewal is issued pursuant to Chapter 403, Florida Statutes (F.S.). There were no comments received from Region 4, U.S. EPA, regarding the PROPOSED Permit.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the permitting authority in the Legal Office; and with the clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000; 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 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



L.T. Kozlov, P.E.
Program Administrator
Air Resources Management



LTK/jar

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL TITLE V AIR OPERATION PERMIT (including the FINAL Determination and the FINAL Permit) was sent by certified mail or electronically (with Received Receipt) before the close of business on Feb. 9, 2007 to the person(s) listed or as otherwise noted:

James W. Becker, Manager, Orange County Solid Waste Division, (**Jim.Becker@ocfl.net**)

The undersigned duly designated deputy agency clerk hereby certifies that a copy of this NOTICE OF FINAL TITLE V AIR OPERATION PERMIT was sent by certified mail or electronically (with Received Receipt) before the close of business on Feb. 9, 2007 to the person(s) listed or as otherwise noted:

Jim Nissen, P.E., Brown and Caldwell, (**jnissen@brwncald.com**)

Hamp Pridgen, Air Section Manager, OCEPD, (**Hamp.Pridgen@ocfl.net**)

Dan R. Morrical, P.E., Chief Engineer, Orange County Solid Waste Division, (**Dan.Morrical@ocfl.net**)

Barbara Friday, BAR [**Barbara.Friday@dep.state.fl.us**] (for posting with Region 4, U.S. EPA)

Clerk Stamp

Filed, on this date, pursuant to Section 120.52, F.S., with the designated Department Clerk, receipt is hereby acknowledged.

Diana Jones
(Clerk)

02/09/2007
(Date)

FINAL DETERMINATION

Title V Air Operation Permit Renewal
FINAL Permit No.: 0950113-004-AV
Orange County Solid Waste Division
Orange County Board of County Commissioners
Orange County Solid Waste Management Facility
Page 1 of 1

I. Comment(s).

No comments were received from the USEPA during their 45-day review period of the PROPOSED Permit.

II. Conclusion.

In conclusion, the permitting authority hereby issues the FINAL Permit.

STATEMENT OF BASIS

Orange County Board of County Commissioners
Orange County Solid Waste Management Facility
Facility ID No.: 0950113
Orange County

Title V Air Operation Permit Renewal
FINAL Permit Project No.: 0950113-004-AV

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

The subject of this permit is for the renewal of the Title V Air Operation Permit.

Orange County operates the Orange County Solid Waste Management Facility (landfill) identified as emissions unit 001 (EU -001). This facility consists of an active, Class I municipal solid waste disposal facility (landfill) that has been in operation since 1974. The design capacity of the landfill is greater than 2.5 million megagrams by mass or 2.5 million cubic meters by volume. It is an active asbestos waste disposal site. There is no bioreactor at the landfill. Non-methane organic compound (NMOC) emissions are calculated to be equal to or greater than 50 megagrams per year. The landfill has a flare control system to control the emissions of volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and sulfur compounds. The flare control system is not subject to compliance assurance monitoring (CAM) under 40 CFR Part 64; therefore, CAM does not apply to the facility (landfill).

E.U. 001 - The facility is subject to the following: 40 CFR Part 60, Subparts A (General Provisions) and WWW (Standards of Performance for Municipal Solid Waste Landfills); 40 CFR Part 63, Subparts A (General Provisions) and AAAA (National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills); with the exception of the candlestick flare control system, which shall have no visible emissions per 40 CFR Part 60.18(c)(1), the facility is subject to the General Visible Emissions (VE) limit of less than 20 percent per Rule 62-296.320(4)(b)1., F.A.C., VE testing of the candlestick flare is required annually; the General Volatile Organic Compound (VOC) standard per Rule 62-296.320(1)(a), F.A.C.; and the Objectionable Odor Rule per Rule 62-296.320(2), F.A.C.

Also included in this permit are miscellaneous insignificant emissions units and/or activities.

Based on the Title V Air Operation Permit Renewal application received August 25, 2006, this facility (landfill) is not a major source of hazardous air pollutants (HAPs).

Orange County Board of County Commissioners
Orange County Solid Waste Management Facility
Facility ID No.: 0950113
Orange County

Title V Air Operation Permit Renewal

FINAL Permit Project No.: 0950113-004-AV

Permitting Authority:

DEP Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Telephone: 407/894-7555
Fax: 407/897-5963

Compliance Authority:

DEP Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Telephone: 407/894-7555
Fax: 407/897-5963

Title V Air Operation Permit Renewal

FINAL Permit No.: 0950113-004-AV

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Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Permittee:
Orange County
Board of County Commissioners
5901 Young Pine Road
Orlando, Florida 32829

FINAL Permit No.: 0950113-004-AV
Facility ID No.: 0950113
SIC No(s): 24, 2421
Project: Title V Air Operation Permit Renewal

The purpose of this permit is to renew the Title V Air Operation Permit. This existing facility is located at 5901 Young Pine Road; UTM Coordinates: Zone 17, 481.20 km East and 3150.30 km North; and, Latitude: 28° 28' 52" North and Longitude: 81° 11' 30" West.

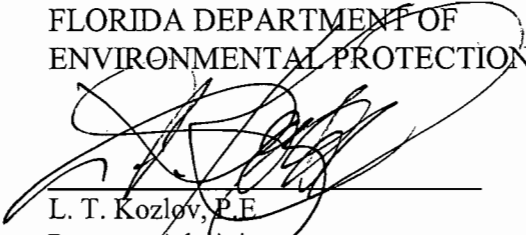
This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix B, 40 CFR 60, Subpart WWW and 40 CFR 60, Subpart AAAA, Combined General Provisions
Appendix C, 40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA, Combined Standard Conditions
Appendix D-1, Definitions for Subpart WWW – Municipal Solid Waste Landfills
Appendix I-1, List of Insignificant Emissions Units and/or Activities
APPENDIX TV-6, TITLE V CONDITIONS version dated 02/12/02
Table 1, Summary of Monitoring Requirements for Municipal Solid Waste Landfills
Table 2, Summary of Recordkeeping Requirements for Municipal Solid Waste Landfills
Table 3, Summary of Compliance Requirements for Municipal Solid Waste Landfills

Effective Date: February 6, 2007
Renewal Application Due Date: August 28, 2011
Expiration Date: February 28, 2012

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION


L. T. Kozlov, P.E.
Program Administrator
Air Resources Management


LTK/jr

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of an active, Class I municipal solid waste disposal facility (landfill) that has been in operation since 1974. The design capacity of the landfill is greater than 2.5 million megagrams by mass or 2.5 million cubic meters by volume. It is an active asbestos waste disposal site. There is no bioreactor at the landfill. Non-methane organic compound (NMOC) emissions are calculated to be equal to or greater than 50 megagrams per year. Landfill gas emissions are collected and controlled by a flare. This facility is subject to 40 CFR 60 Subparts WWW and A and 40 CFR 63 Subparts AAAA and A.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the Title V Air Operation Permit Renewal application received August 25, 2006, this facility is not a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	Municipal solid waste landfill with candlestick flare

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Appendix A-1: Abbreviations, Acronyms, Citations, and Identification Numbers
Appendix H-1: Permit History

These documents are on file with the permitting authority:

Application for Initial Title V Air Operation Permit received June 14, 1996
Additional information request dated September 17, 1997 and September 29, 1997
Initial Title V Air Operation Permit issued April 15, 1998
Application for a Title V Air Operation Permit Renewal received August 28, 2001
Additional information request dated October 26, 2001
Letter requesting PSD evaluation dated December 3, 2001
Additional information and evaluation received January 23, 2002
Open for Cause Letter dated July 2, 2003
Revision Title V Air Operation Permit issued February 6, 2004.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS, is a part of this permit.
 2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C.]
 3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]
 4. Prevention of Accidental Releases (Section 112(r) of CAA).
 - a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 3346
Merrifield, VA 22116-3346
Telephone: 703/816-4434
- and,
- b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.
[40 CFR 68]
5. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]
6. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. To comply, procedures to minimize pollutant emissions shall include the following:
 - a. Tightly cover or close all VOC containers when they are not in use; and
 - b. Maintain all piping, valves, fittings, etc. in good operation condition, including flares.
[Rule 62-296.320(1)(a), F.A.C.]

7. Emissions of Unconfined Particulate Matter. Pursuant to Rules 62-296.320(4)(c)1., 3. & 4., F.A.C., reasonable precautions to prevent emissions of unconfined particulate matter at this facility include the following requirements (see Condition 57. of APPENDIX TV-6, TITLE V CONDITIONS):

- a. Application of asphalt, water, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities;
- b. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne;
- c. Landscaping or planting of vegetation; and,
- d. Other techniques, as necessary.

[Rules 62-296.320(4)(c)1., 3. & 4., F.A.C.]

8. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.

[Rule 62-213.440, F.A.C.]

9. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C.

[Rules 62-213.440(3) and 62-213.900, F.A.C.]

{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX TV-6, TITLE V CONDITIONS)}

10. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Central District office.

Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
Telephone: 407/894-7555; Fax: 407/897-5963

11. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency, Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303-8960
Telephone: 404/562-9155; Fax: 404/562-9163

{Permitting Note: This condition implements the requirements of Rule 62-210.370(3), F.A.C. (see Condition 51. of APPENDIX TV-6, TITLE V CONDITIONS)}

12. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.

[Rule 62-213.420(4), F.A.C.]

13. At least 180 days prior to the expiration date of this operation permit, the permittee shall submit to this office four copies of the air permit application, DEP Form No. 62-210.900(1).

[Rule 62-4.090, F.A.C.]

14. Annual Operating Report. A DEP Form No. 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" including the Emissions Report, shall be completed for each calendar year on or before March 1 of the following year and submitted to the Department of Environmental Protection's Central District office:

Florida Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803
Telephone: 407/894-7555

{Permitting Note: This condition implements the requirements of Rules 62-210.370(3) F.A.C. (see Condition 24. of APPENDIX TV-6, TITLE V CONDITIONS.)}

Section III. Emissions Unit(s) and Conditions.

Subsection A. This section addresses the following emissions unit(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	Municipal solid waste landfill with a candlestick flare

{Permitting note: This emissions unit is regulated under: NSPS - 40 CFR 60, Subpart A, General Provisions, 40 CFR 60 Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills; NESHAP - 40 CFR Part 63, Subpart A, General Provisions and 40 CFR Part 63, Subpart AAAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills adopted and incorporated by reference in Rule 62-204.800, F.A.C.,}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

A1. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year.
[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

A2. The flare control system shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours.
[Rule 40 CFR 60.18(c)(1)]

A3. The flare control system shall be operated with a flame present at all times, as determined by a thermocouple or any other equivalent device to detect the presence of a flame.
[40 CFR 60.18(c)(2)]

Test Methods and Procedures

{Permitting note: Table 3, Summary of Compliance Requirements for Municipal Solid Waste Landfills, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A4. The flare must be tested for visible emissions in accordance with EPA Method 22. The observation period is 2 hours and shall be conducted annually.
[40 CFR 60.8]

A5. The permittee shall notify the Central District Office of the Department of Environmental Protection, in writing, at least 15 days prior to the date on which each formal compliance test is to begin. Said notification shall include the date, time and place of each such test, as well as the name of the contact person who will be responsible for coordinating and having such tests conducted for the owner.
[Rule 62-297.310(7)(a)9., F.A.C.]

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Abbreviations and Acronyms:

°F:	Degrees Fahrenheit
BACT:	Best Available Control Technology
CFR:	Code of Federal Regulations
DEP:	State of Florida, Department of Environmental Protection
DARM:	Division of Air Resource Management
EPA:	United States Environmental Protection Agency
F.A.C.:	Florida Administrative Code
F.S.:	Florida Statute
ISO:	International Standards Organization
LAT:	Latitude
LONG:	Longitude
MMBtu:	million British thermal units
MW:	Megawatt
ORIS:	Office of Regulatory Information Systems
SOA:	Specific Operating Agreement
UTM:	Universal Transverse Mercator

Citations:

The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, permit numbers, and ID numbers.

Code of Federal Regulations:

Example: [40 CFR 60.334]

Where:	40	reference to	Title 40
	CFR	reference to	Code of Federal Regulations
	60	reference to	Part 60
	60.334	reference to	Regulation 60.334

Florida Administrative Code (F.A.C.) Rules:

Example: [Rule 62-213, F.A.C.]

Where:	62	reference to	Title 62
	62-213	reference to	Chapter 62-213
	62-213.205	reference to	Rule 62-213.205, F.A.C.

ISO: International Standards Organization refers to those conditions at 288 degrees K, 60 percent relative humidity, and 101.3 kilopascals pressure.

Identification Numbers:

Facility Identification (ID) Number:

Example: Facility ID No.: 1050221

Where:

105 = 3-digit number code identifying the facility is located in Polk County
0221 = 4-digit number assigned by state database.

Permit Numbers:

Example: 1050221-002-AV, or
1050221-001-AC

Where:

AC = Air Construction Permit
AV = Air Operation Permit (Title V Source)
105 = 3-digit number code identifying the facility is located in Polk County
0221 = 4-digit number assigned by permit tracking database
001 or 002 = 3-digit sequential project number assigned by permit tracking database

Example: PSD-FL-185
PA95-01
AC53-208321

Where:

PSD = Prevention of Significant Deterioration Permit
PA = Power Plant Siting Act Permit
AC = old Air Construction Permit numbering

Appendix D-1

Definitions for Subpart WWW - Municipal Solid Waste Landfills

Active collection system means a gas collection system that uses gas mover equipment.

Active landfill means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future.

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under Sec. 60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed. A landfill is considered closed after meeting the criteria of Sec. 258.60 of this title.

Closure means that point in time when a landfill becomes a closed landfill.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Controlled landfill means any landfill at which collection and control systems are required under this subpart as a result of the nonmethane organic compounds emission rate. The landfill is considered controlled at the time either (1) A notification of intent to install a collection and control system or (2) A collection and control system design plan is submitted in compliance with Sec. 60.752(b)(2)(i).

Design capacity means the maximum amount of solid waste a landfill can accept, as specified in the construction or operating permit issued by the State, local, or Tribal agency responsible for regulating the landfill.

Disposal facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Emission rate cutoff means the threshold annual emission rate to which a landfill compares its estimated emission rate to determine if control under the regulation is required.

Enclosed combustor means an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

Flare means an open combustor without enclosure or shroud.

Gas mover equipment means the equipment (i.e., fan, blower, compressor) used to transport landfill gas through the header system.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act, parts 264 and 265 of this title. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Interior well means any well or similar collection component located inside the perimeter of the landfill. A perimeter well located outside the landfilled waste is not an interior well.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under Sec. 257.2 of this title.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill.

Municipal solid waste landfill or *MSW landfill* means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA Subtitle D wastes (Sec. 257.2 of this title) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion.

Municipal solid waste landfill emissions or *MSW landfill emissions* means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

NMOC means nonmethane organic compounds, as measured according to the provisions of Sec. 60.754.

Nondegradable waste means any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals.

Passive collection system means a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment.

Sludge means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C 2011 et seq.).

Sufficient density means any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this part.

Sufficient extraction rate means a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.

Appendix H-1: Permit History

Orange County Board of County Commissioners
Orange County Solid Waste Management Facility

FINAL Permit No.: 0950113-004-AV
Facility ID No.: 0950113

E.U. ID No.	Description	Permit No.	Effective Date	Expiration Date	Project Type ¹
-001	Orange County Solid Waste Management Facility	0950113-001-AV	04/16/98	02/28/02	Initial
-001	Orange County Solid Waste Management Facility	0950113-002-AV	10/10/02	02/28/07	Renewal
-001	Orange County Solid Waste Management Facility	0950113-003-AV	02/06/04	02/28/07	Revision ²

¹ Project Type (select one): Title V: Initial, Revision, Renewal, or Admin. Correction; Construction (new or mod.); or, Extension (AC only).

² The purpose of the revision (open for cause) was to incorporate the requirements of 40 CFR 63, Subpart AAAAA.

Appendix I-1: List of Insignificant Emissions Units and/or Activities.

Orange County
Board of County Commissioners
Orange County Solid Waste Management Facility

FINAL Permit No.: 0950113-004-AV
Facility ID No.: 0950113

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, or that meet the criteria specified in Rule 62-210.300(3)(b)1., F.A.C., Generic Emissions Unit Exemption, are exempt from the permitting requirements of Chapters 62-210, 62-212 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Brief Description of Emissions Units and/or Activities

1. Stationary Petroleum Storage Tanks
2. Various Pumps and Generators
3. Vehicle and Landfill Maintenance Activities
4. Leachate Emissions
5. Household Hazardous Waste Drop-off Area at Citizen Center
6. Miscellaneous Activities

Appendix B

40 CFR Part 60, Subpart WWW and 40 CFR Part 63, Subpart AAAA Combined General Provisions

§ 60.1 Applicability.

(a) Except as provided in 40 CFR 60 subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (CAA) as amended November 15, 1990 (42 U.S.C. 7661).

[40 CFR 60.1(a), (b) and (c)]

§ 63.1 Applicability.

(a) **General. Affected Sources are already subject to the provisions of paragraphs (a)(10)-(12) through the same provisions under 40 CFR, part 60 subpart A.**

(1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2.

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.

(4) (i) Each relevant standard in this part 63 must identify explicitly whether each provision in this subpart A is or is not included in such relevant standard.

(ii) If a relevant part 63 standard incorporates the requirements of 40 CFR part 60, part 61, or other part 63 standards, the relevant part 63 standard must identify explicitly the applicability of each corresponding part 60, part 61, or other part 63 subpart A (General) Provision.

(iii) The General Provisions in this Subpart A do not apply to regulations developed pursuant to section 112(r) of the amended Act., unless otherwise specified in those regulations.

(5) [Reserved]

(6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD-13), Research Triangle Park, North Carolina 27711.

(7)-(14) [Reserved]

(b) *Initial applicability determination for this part.*

(1) The provisions of this part apply to the owner or operator of any stationary source that –

(i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and

(ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.

(2) [Reserved]

APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06)

Chapter 62-4, F.A.C.

1. **Not federally enforceable.** General Prohibition. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, constructed, expanded, or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit.

[Rule 62-4.030, Florida Administrative Code (F.A.C.); and, Section 403.087, Florida Statute (F.S.)]

2. **Not federally enforceable.** Procedures to Obtain Permits and Other Authorizations: Applications.

(1) Any person desiring to obtain a permit from the Department shall apply on forms prescribed by the Department and shall submit such additional information as the Department by law may require. (2) All applications and supporting documents shall be filed in quadruplicate with the Department. (3) To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. All applications for a Department permit shall be certified by a professional engineer registered in the State of Florida except, when the application is for renewal of an air pollution operation permit at a non-Title V source as defined in Rule 62-210.200, F.A.C., or where professional engineering is not required by Chapter 471, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them. (4) Processing fees for air construction permits shall be in accordance with Rule 62-4.050(4), F.A.C. (5)(a) To be considered by the Department, each application must be accompanied by the proper processing fee. The fee shall be paid by check, payable to the Department of Environmental Protection. The fee is non-refundable except as provided in Section 120.60, F.S., and in this section. (b) When an application is received without the required fee, the Department shall acknowledge receipt of the application and shall immediately notify the applicant by certified mail that the required fee was not received and advise the applicant of the correct fee. The Department shall take no further action until the correct fee is received. If a fee was received by the Department which is less than the amount required, the Department shall return the fee along with the written notification. (c) Upon receipt of the proper application fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin. (d) If the applicant does not submit the required fee within ten days of receipt of written notification, the Department shall either return the unprocessed application or arrange with the applicant for the pick up of the application. (e) If an applicant submits an application fee in excess of the required fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin upon receipt, and the Department shall refund to the applicant the amount received in excess of the required fee. (6) Any substantial modification to a complete application shall require an additional processing fee determined pursuant to the schedule set forth in Rule 62-4.050, F.A.C., and shall restart the time requirements of Sections 120.60 and 403.0876, F.S. For purposes of this subsection, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review. (7) Modifications to existing permits proposed by the permittee which require substantial changes in the existing permit or require substantial evaluation by the Department of potential impacts of the proposed modifications shall require the same fee as a new application for the same time duration except for modification under Chapter 62-45, F.A.C. [Rule 62-4.050, F.A.C.]

3. Standards for Issuing or Denying Permits. Except as provided at Rule 62-213.460, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules. [Rule 62-4.070(7), F.A.C.]

4. Modification of Permit Conditions.

(1) For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time. For the purpose of this section, good cause shall include, but not be limited to, any of the following: (**also, see Condition No. 38.**) (a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship. (b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S. (c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards. (e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance. (2) A permittee may request a modification of a permit by applying to the Department. (3) A permittee may request that

(3) An owner or operator of a stationary source who is in the relevant source category and who determines that the source is not subject to a relevant standard or other requirement established under this part, must keep a record as specified in § 63.10(b)(3).

(c) *Applicability of this part after a relevant standard has been set under this part.*
[Reserved]

(d) [Reserved]

(e) If the Administrator promulgates an emission standard under section 112(d) or (h) of the Act that is applicable to a source subject to an emission limitation by permit established under section 112(j) of the Act, and the requirements under the section 112(j) emission limitation are substantially as effective as the promulgated emission standard, the owner or operator may request the permitting authority to revise the source's title V permit to reflect that the emission limitation in the permit satisfies the requirements of the promulgated emission standard. The process by which the permitting authority determines whether the section 112(j) emission limitation is substantially as effective as the promulgated emission standard must include, consistent with part 70 or 71 of this chapter, the opportunity for full public, EPA, and affected State review (including the opportunity for EPA's objection) prior to the permit revision being finalized. A negative determination by the permitting authority constitutes final action for purposes of review and appeal under the applicable title V operating permit program.

§ 60.2 & §63.2 Definitions.

Act means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Pub. L. 101-549, 104 Stat. 2399).

Actual emissions is defined in subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

Affected source, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the "affected source," as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term "affected source," as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of "affected source," and the procedures for adopting an alternative definition of "affected source," shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

Alternative emission limitation means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

Alternative emission standard means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator's satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

Alternative method means any method of sampling and analyzing for an air pollutant which is not a reference or equivalent method but which has been demonstrated to the Administrator's satisfaction to, in specific cases, produce results adequate for his determination of compliance.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator's satisfaction, using Method 301 in Appendix A of this part, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to Title V of the Act (42 U.S.C. 7661).

Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

Capital expenditure means an expenditure for a physical or operational change to an existing facility which exceeds the product of the applicable "annual asset guideline repair allowance percentage" specified in the latest edition of Internal Revenue Service (IRS) Publication 534 and the existing facility's basis, as defined by section 1012 of the Internal Revenue Code. However, the total expenditure for a physical or operational change to an existing facility must not be reduced by any "excluded additions" as defined in IRS Publication 534, as would be done for tax purposes.

Clean coal technology demonstration project means a project using funds appropriated under the heading 'Department of Energy-Clean Coal Technology', up to a total amount of \$2,500,000,000 for commercial demonstrations of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency.

Commenced means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

Compliance date means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

Compliance schedule means:

(1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.

Construction means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

Continuous monitoring system (CMS) is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

Continuous opacity monitoring system (COMS) means a continuous monitoring system that measures the opacity of emissions.

Continuous parameter monitoring system means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Effective date means:

(1) With regard to an emission standard established under this part, the date of promulgation in the FEDERAL REGISTER of such standard; or

(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

Electric utility steam generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

Emission standard means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

Emissions averaging is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

EPA means the United States Environmental Protection Agency.

Equivalent emission limitation means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

Equivalent method means any method of sampling and analyzing for an air pollutant which has been demonstrated to the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions.

Excess emissions and continuous monitoring system performance report is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

Excess Emissions and Monitoring Systems Performance Report is a report that must be submitted periodically by a source in order to provide data on its compliance with stated emission limits and operating parameters, and on the performance of its monitoring systems.

Existing facility means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type.

Existing source means any affected source that is not a new source.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;

(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

(3) All terms and conditions in a title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;

(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);

(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR part 51;

(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:

(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;

(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not "federally enforceable" by EPA;

(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";

(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and

(v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under subpart E of this part for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

Fixed capital cost means the capital needed to provide all the depreciable components of an existing source.

Fugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.

Isokinetic sampling means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the sample point.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a Title V permit occurs immediately after the EPA takes final action on the final permit.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Modification means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.

Monitoring means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance -- the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques -- the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency -- the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time -- the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

Monitoring device means the total equipment, required under the monitoring of operations sections in applicable subparts, used to measure and record (if applicable) process parameters.

New affected source means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of "new affected source," and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term "new affected source," which will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:

- (1) Emission reduction impacts of controlling individual sources versus groups of sources;
- (2) Cost effectiveness of controlling individual equipment;
- (3) Flexibility to accommodate common control strategies;
- (4) Cost/benefits of emissions averaging;
- (5) Incentives for pollution prevention;
- (6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);
- (7) Feasibility and cost of monitoring; and
- (8) Other relevant factors.

New source means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

Nitrogen oxides means all oxides of nitrogen except nitrous oxide, as measured by test methods set forth in this part.

One-hour period means any 60-minute period commencing on the hour.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source..

Part 70 permit means any permit issued, renewed, or revised pursuant to part 70 of this chapter.

Particulate matter means any finely divided solid or liquid material, other than uncombined water, as measured by the reference methods specified under each applicable subpart, or an equivalent or alternative method.

Performance audit means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit modification means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permit revision means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Proportional sampling means sampling at a rate that produces a constant ratio of sampling rate to stack gas flow rate.

Reactivation of a very clean coal-fired electric utility steam generating unit means any physical change or change in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation where the unit:

(1) Has not been in operation for the two-year period prior to the enactment of the Clean Air Act Amendments of 1990, and the emissions from such unit continue to be carried in the permitting authority's emissions inventory at the time of enactment;

(2) Was equipped prior to shut-down with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent;

(3) Is equipped with low-NOx burners prior to the time of commencement of operations following reactivation; and

(4) Is otherwise in compliance with the requirements of the Clean Air Act.

Reference method means any method of sampling and analyzing for an air pollutant as specified in the applicable subpart.

Reconstruction means the replacement of components of an affected or a previously unaffected stationary source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Regulation promulgation schedule means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the FEDERAL REGISTER.

Relevant standard means:

(1) An emission standard;

(2) An alternative emission standard;

(3) An alternative emission limitation; or

(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes subpart A of this part, as provided by § 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: "responsible official" shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Repowering means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990. Repowering shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

Shutdown means the cessation of operation of an affected source or portion of an affected source for any purpose.

Six-minute period means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

Standard conditions means a temperature of 293 °K (68° F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

Startup means the setting in operation of an affected source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

(1) The provisions of this part and/or

(2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Test method means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of appendix A of this part.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

Volatile Organic Compound means any organic compound which participates in atmospheric photochemical reactions; or which is measured by a reference method, an equivalent method, an alternative method, or which is determined by procedures specified under any subpart.

Working day means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

§ 60.3 Units and abbreviations.

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) System International (SI) units of measure:

A -- ampere

g -- gram

Hz -- hertz

J -- joule

°K -- degree Kelvin

kg -- kilogram

m -- meter

m³ -- cubic meter

mg -- milligram -- 10⁻³ gram

mm -- millimeter -- 10⁻³ meter

Mg -- megagram -- 10⁶ gram

mol -- mole

N -- newton

ng -- nanogram -- 10^{-9} gram
nm -- nanometer -- 10^{-9} meter
Pa -- pascal
s -- second
V -- volt
W -- watt
 Ω -- ohm
 μg -- microgram -- 10^{-6} gram

(b) Other units of measure:

Btu -- British thermal unit
 $^{\circ}\text{C}$ -- degree Celsius (centigrade)
cal -- calorie
cfm -- cubic feet per minute
cu ft -- cubic feet
dcf -- dry cubic feet
dcm -- dry cubic meter
dscf -- dry cubic feet at standard conditions
dscm -- dry cubic meter at standard conditions
eq -- equivalent
 $^{\circ}\text{F}$ -- degree Fahrenheit
ft -- feet
gal -- gallon
gr -- grain
g-eq -- gram equivalent
hr -- hour
in -- inch
k -- 1,000
l -- liter
lpm -- liter per minute
lb -- pound
meq -- milliequivalent
min -- minute
ml -- milliliter
mol. wt. -- molecular weight
ppb -- parts per billion
ppm -- parts per million
psia -- pounds per square inch absolute
psig -- pounds per square inch gage
 $^{\circ}\text{R}$ -- degree Rankine
scf -- cubic feet at standard conditions
scfh -- cubic feet per hour at standard conditions
scm -- cubic meter at standard conditions
sec -- second
sq ft -- square feet
std -- at standard conditions

(c) Chemical nomenclature:

CdS -- cadmium sulfide
CO -- carbon monoxide
CO₂ -- carbon dioxide
HCl -- hydrochloric acid
Hg -- mercury
H₂O -- water
H₂S -- hydrogen sulfide
H₂SO₄ -- sulfuric acid
N₂ -- nitrogen
NO -- nitric oxide
NO₂ -- nitrogen dioxide
NO_x -- nitrogen oxides
O₂ -- oxygen
SO₂ -- sulfur dioxide

SO₃ -- sulfur trioxide
SO_x -- sulfur oxides

(d) Miscellaneous:
A.S.T.M. -- American Society for Testing and Materials

§ 63.4 Prohibited activities and circumvention.

Affected Sources are already subject to the provisions of paragraphs (b) through the same provisions under 40 CFR, part 60 subpart A.

(a) *Prohibited activities.*

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(b) *Circumvention.* [Reserved]

(c) *Severability.* Notwithstanding any requirement incorporated into a title V permit obtained by an owner or operator subject to the provisions of this part, the provisions of this part are federally enforceable.

§ 60.12 Circumvention.

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

§ 60.5 Determination of construction or modification.

(a) When requested to do so by an owner or operator, the Administrator will make a determination of whether action taken or intended to be taken by such owner or operator constitutes construction (including reconstruction) or modification or the commencement thereof within the meaning of this part.

(b) The Administrator will respond to any request for a determination under paragraph (a) of this section within 30 days of receipt of such request.

§ 60.6 Review of plans.

(a) When requested to do so by an owner or operator, the Administrator will review plans for construction or modification for the purpose of providing technical advice to the owner or operator.

(b)(1) A separate request shall be submitted for each construction or modification project.

(2) Each request shall identify the location of such project, and be accompanied by technical information describing the proposed nature, size, design, and method of operation of each affected facility involved in such project, including information on any equipment to be used for measurement or control of emissions.

(c) Neither a request for plans review nor advice furnished by the Administrator in response to such request shall (1) relieve an owner or operator of legal responsibility for compliance with any provision of this part or of any applicable State or local requirement, or (2) prevent the Administrator from implementing or enforcing any provision of this part or taking any other action authorized by the Act.

§ 60.7 Notification and record keeping.

(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, as follows:

1. A notification of the date construction (or reconstruction as defined under § 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

2. Reserved.

3. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

4. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in § 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

5. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

6. A notification of the anticipated date for conducting the opacity observations required by 40 CFR 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

7. A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 CFR 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5) of 40 CFR 60. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in Figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

[See Attached Figure 1-Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance]

(e) (1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance re-report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:

(1) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(2) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(g) If notification substantially similar to that in 40 CFR 60.7(a) is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of 40 CFR 60.7(a).

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

§ 63.5 Preconstruction review and notification requirements.

(a) *Applicability.*

[Reserved]

(b) *Requirements for existing, newly constructed, and reconstructed sources.*

(1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which

reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in § 63.9(b).

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.

(c)-(f) [Reserved]

§ 60.8 Performance tests.

(a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

[40 CFR 60.8(a)]

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in 40 CFR 60.8 shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

[40 CFR 60.8(b)(1), (2), (3), (4) & (5)]

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

[40 CFR 60.8(c)].

(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the administrator (or delegated State or local agency) as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator (or delegated State or local agency) by mutual agreement.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility. This includes

(i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and

(ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

[40 CFR 60.8(e)].

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally

lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[40 CFR 60.8(f)].

§ 60.9 Availability of information.

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)

§ 60.10 and § 63.12 State authority and delegations.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from -

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

§ 60.11 Compliance with standards and maintenance requirements.

(a) Compliance with standards in this part, other than opacity standards, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5). For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e) (1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in 40 CFR 60.8 unless one of the following conditions apply. If no performance test under 40 CFR 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under 40 CFR 60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in 40 CFR 60.7(a)(6) shall be waived. The rescheduled opacity observations

shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under 40 CFR 60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the initial performance test in accordance with procedures contained in Method 9 of appendix B of this part. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The owner or operator of an affected facility shall make available, upon request by the Administrator, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. Except as provided in 40 CFR 60.11(e)(5), the results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in appendix B of 40 CFR 60, has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

(2) Except as provided in 40 CFR 60.11(e)(3), the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with 40 CFR 60.11(b), shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under 40 CFR 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in 40 CFR 60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of 40 CFR 60.7(e)(1) shall apply.

(4) The owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by 40 CFR 60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and 40 CFR 60.8 performance test results.

(5) The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.

(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by 40 CFR 60.8, the opacity observation results and observer certification required by 40 CFR 60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an opacity standard, only those results are required to be submitted along with the performance test results required by 40 CFR 60.8. If the Administrator finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with 40 CFR 60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, the shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

(8) The Administrator will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity standard in the Federal Register.

(f) Special provisions set forth under an applicable subpart of 40 CFR 60 shall supersede any conflicting provisions of 40 CFR 60.11.

[40 CFR 60.11(a), (b), (c), (d), (e) and (f)]

§ 63.6 Compliance with standards and maintenance requirements.

(a)-(d) [Reserved]

(e) Operation and maintenance requirements.

(1) (i) At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards, i.e., meet the emission standard or comply with the startup, shutdown, and malfunction plan. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section), review of operation and maintenance records, and inspection of the source.

(i) Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

(3) Startup, shutdown, and malfunction plan.

(i) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; a program of corrective action for malfunctioning process; and air pollution control and monitoring equipment used to comply with the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to --

(A) Ensure that, at all times, the owner or operator operate and maintain affected sources, including associated air pollution control and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards;

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of this section.

(iii) When actions taken by the owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the owner or operator must keep records of these events as specified in § 63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in § 63.10(d)(5).

(iv) If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with § 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).

(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases

operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator.

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(2) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator may require reasonable revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

- (A) Does not address a startup, shutdown, or malfunction event that has occurred;
- (B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards;
- (C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or
- (D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by § 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator adopt a startup, shutdown, and malfunction plan which conforms to the provisions of this part, and that the owner or operator operate and maintain the source in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) Compliance with nonopacity emission standards - Affected Sources are already subject to the provisions of paragraphs (f)(1) and (2)(1) through the same provisions under 40 CFR, part 60 subpart A.

(1) *Applicability.* [Reserved]

(2) *Methods for determining compliance.*

(i) [Reserved]

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in § 63.6(e) and applicable subparts of this part.

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

- (A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;
- (B) The performance test was conducted under representative operating conditions for the source;
- (C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e) of this subpart; and
- (D) The performance test was appropriately quality-assured, as specified in § 63.7(c).

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable subparts of this part.

(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable subparts of this part.

(3) *Finding of compliance.* The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.

(g)-(j) [Reserved]

§ 60.13 Monitoring requirements.

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under 40 CFR 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he/she shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 CFR 60. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under 40 CFR 60.8 and as described in 40 CFR 60.11(e)(5), shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in 40 CFR 60.13(c) at least 10 days before the performance test required under 40 CFR 60.8 is conducted.

(2) Except as provided in 40 CFR 60.13(c)(1), the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.

(d) (1) Owners and operators of all continuous emission monitoring systems installed in accordance with the provisions of this part shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For a COMS, the optical surfaces, exposed to the effluent gases, must be cleaned before performing the zero and upscale drift adjustments, except for systems using automatic zero adjustments. The optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of 40 CFR 60 shall be used.

- (g)
- (1) When more than one continuous monitoring system is used to measure the emissions from only one affected facility (e.g. multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless installation of fewer systems is approved by the Administrator.
 - (2) When the effluents from two or more affected facilities subject to the same opacity standard are combined before being released to the atmosphere, the owner or operator may either install a continuous opacity monitoring system at a location monitoring the combined effluent or install an opacity combiner system comprised of opacity and flow monitoring systems on each stream, and shall report as per Sec. 60.7(c) on the combined effluent. When the affected facilities are not subject to the same opacity standard applicable, except for documented periods of shutdown of the affected facility, subject to the most stringent opacity standard shall apply
 - (3) When the effluents from two or more affected facilities subject to the same emissions standard, other than opacity, are combined before released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the continuous monitoring standard, separate continuous monitoring systems shall be installed on each effluent and the owner or operator shall report as required for each affected facility.

(h) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. For owners or operators complying with the requirements in Sec. 60.7(f)(1) or (2), data averages must include any data recorded during periods of monitor breakdown or malfunction. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O₂ or ng or pollutant per J of heat input). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).
[Rule 62-296.800, F.A.C.; 40 CFR 60.13(h)].

(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:

- (1) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases.
 - (2) Alternative monitoring requirements when the affected facility is infrequently operated.
 - (3) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.
 - (4) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.
 - (5) Alternative methods of converting pollutant concentration measurements to units of the standards.
 - (6) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.
 - (7) Alternatives to the A.S.T.M. test methods or sampling procedures specified by any subpart.
 - (8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.
 - (9) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities is released to the atmosphere through more than one point.
- [Rule 62-296.800, F.A.C.; 40 CFR 60.13(i)].

(j) An alternative to the relative accuracy (RA) test specified in Performance Specification 2 of appendix B may be requested as follows:

(1) An alternative to the reference method tests for determining RA is available for sources with emission rates demonstrated to be less than 50 percent of the applicable standard. A source owner or operator may petition the Administrator to waive the RA test in section 8.4 of Performance Specification 2 and substitute the procedures in section 16.0 if the results of a performance test conducted according to the requirements in 40 CFR 60.8 of this subpart or other tests performed following the criteria in 40 CFR 60.8 demonstrate that the emission rate of the pollutant of interest in the units of the applicable standard is less than 50 percent of the applicable standard. For sources subject to standards expressed as control efficiency levels, a source owner or operator may petition the Administrator to waive the RA test and substitute the procedures in section 16.0 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the continuous emission monitoring system is used to determine compliance continuously with the applicable standard. The petition to waive the RA test shall include a detailed description of the procedures to be applied. Included shall be location and procedure for conducting the alternative, the concentration or response levels of the alternative RA materials, and the other equipment checks included in the alternative procedure. The Administrator will review the petition for completeness and applicability. The determination to grant a waiver will depend on the intended use of the CEMS data (e.g., data collection purposes other than NSPS) and may require specifications more stringent than in Performance Specification 2 (e.g., the applicable emission limit is more stringent than NSPS).

(2) The waiver of a CEMS RA test will be reviewed and may be rescinded at such time, following successful completion of the alternative RA procedure that the CEMS data indicate the source emissions approaching the level. The criterion for reviewing the waiver is the collection of CEMS data showing that emissions have exceeded 70 percent of the applicable standard for seven, consecutive, averaging periods as specified by the applicable regulation(s). For sources subject to standards expressed as control efficiency levels, the criterion for reviewing the waiver is the collection of CEMS data showing that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for seven, consecutive, averaging periods as specified by the applicable regulation(s) [e.g., 40 CFR 60.45(g)(2) and 40 CFR 60.45(g)(3), 40 CFR 60.73(e), and 40 CFR 60.84(e)]. It is the responsibility of the source operator to maintain records and determine the level of emissions relative to the criterion on the waiver of RA testing. If this criterion is exceeded, the owner or operator must notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increasing emissions. The Administrator will review the notification and may rescind the waiver and require the owner or operator to conduct a RA test of the CEMS as specified in section 8.4 of Performance Specification 2.
[Rule 62-296.800, F.A.C.; 40 CFR 60.13(j)].

§ 60.14 Modification.

(a) Except as provided under 40 CFR 60.14(e) and 40 CFR 60.14(f), any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(a)].

(b) Emission rate shall be expressed as kg/hr (lbs./hour) of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine emission rate:

(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors", EPA Publication No. AP-42, or other emission factors determined by the Administrator to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrates that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.

(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in 40 CFR 60.14(b)(1) does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in 40 CFR 60.14(b)(1). When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in 40 CFR 60 appendix C of 40 CFR 60 shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(b)].

(c) The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this part any other facility within that source.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(c)].

(d) [Reserved]

(e) The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of 40 CFR 60.14(c) and 40 CFR 60.15.

(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.

(3) An increase in the hours of operation.

(4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by 40 CFR 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.

(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.

(6) The relocation or change in ownership of an existing facility.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(e)].

(f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(f)].

(g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in 40 CFR 60.14(a), compliance with all applicable standards must be achieved.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(g)].

(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.

(i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.

(j) (1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.

(2) This exemption shall not apply to any new unit that:

(i) Is designated as a replacement for an existing unit;

(ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and

(iii) Is located at a different site than the existing unit.

(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. A *temporary clean coal control technology demonstration project*, for the purposes of this section is a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.

§ 60.15 Reconstruction.

(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(a)].

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and

(2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(b)].

(c) "Fixed capital cost" means the capital needed to provide all the depreciable components.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(c)].

(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

- (1) Name and address of the owner or operator.
- (2) The location of the existing facility.
- (3) A brief description of the existing facility and the components which are to be replaced.
- (4) A description of the existing air pollution control equipment and the proposed air pollution control equipment.
- (5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.
- (6) The estimated life of the existing facility after the replacements.
- (7) A discussion of any economic or technical limitations the facility may have in complying with the applicable

standards of performance after the proposed replacements.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(d)].

(e) The Administrator will determine, within 30 days of the receipt of the notice required by 40 CFR 60.15(d) and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(e)].

(f) The Administrator's determination under 40 CFR 60.15(e) shall be based on:

(1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;

(2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;

(3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and

(4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(f)].

(g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(g)].

§ 60.18 General control device requirements.

(a) *Introduction.* This section contains requirements for control devices used to comply with applicable subparts of parts 60 and 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) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max} , as determined by the following equation:

$$V_{max} = (X_{H_2} - K_1) * K_2$$

Where:

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

K_1 = Constant, 6.0 volume-percent hydrogen.

K_2 = Constant, 3.9 (m/sec)/volume-percent hydrogen.

X_{H_2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 60.17).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph

(f)(4) of this section.

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

being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.

(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) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section.

(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) Method 22 of appendix A to this part 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:

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

Eq. 1

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;

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

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

Eq. 2

C_i =Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in § 60.17); and

H_i =Net heat of combustion of sample component i , kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (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. $\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$

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

28.8=Constant

31.7=Constant

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

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

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

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

8.706=Constant

0.7084=Constant

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

§ 60.19 General notification and reporting requirements.

(a) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word “calendar” is absent, unless otherwise specified in an applicable requirement.

(b) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be post-marked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the post-mark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable.

(c) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(d) If an owner or operator of an affected facility in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such facility under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State’s schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the affected facility is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(e) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 61, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which periodic reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the applicable subpart in this part, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR part 61 or part 63 of this chapter standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(f) (1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (f)(2) and (f)(3) of this section, the owner or operator of an affected facility remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (f)(2) and (f)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator’s judgment, an owner or operator’s request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

§ 63.10 Recordkeeping and reporting requirements.

(a)-(b) [Reserved]

(2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of -

- equipment);
- (i) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);
 - (ii) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment;
 - (iii) All required maintenance performed on the air pollution control and monitoring equipment;
 - (iv) Actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3));
 - (v) All information necessary to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)) when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events);
 - (vi)-(xiv) [Reserved]
- (3) [Reserved]

(c) [Reserved]

(d) *General reporting requirements.*

(1)-(4) [Reserved]

(5) (i) Periodic startup, shutdown, and malfunction reports. If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan [see § 63.6(e)(3)], the owner or operator shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semi-annually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph are specified in § 63.9(i).

(e)-(f) [Reserved]

§ 63.15 Availability of information and confidentiality.

(a) Availability of information.

(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) Confidentiality.

(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

Appendix C

40 CFR Part 60, Subpart WWW and 40 CFR Part 63, Subpart AAAA Combined Standard Conditions

Subpart WWW--Standards of Performance for Municipal Solid Waste Landfills and Subpart AAAA--National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

§ 60.750 Applicability, designation of affected facility, and delegation of authority.

(a) The provisions of this subpart apply to each municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991. Physical or operational changes made to an existing MSW landfill solely to comply with Subpart Cc of this part are not considered construction, reconstruction, or modification for the purposes of this section.

(b) The following authorities shall be retained by the Administrator and not transferred to the State: § 60.754(a)(5).

(c) Activities required by or conducted pursuant to a CERCLA, RCRA, or State remedial action are not considered construction, reconstruction, or modification for purposes of this subpart.

§ 63.1930 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills. This subpart requires all landfills described in Sec. 63.1935 to meet the requirements of 40 CFR part 60, subpart Cc or WWW and requires timely control of bioreactors. This subpart also requires such landfills to meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges. It also includes additional reporting requirements.

§ 63.1935 Am I subject to this subpart?

You are subject to this subpart if you meet the criteria in paragraph (a) or (b) of this section.

(a) You are subject to this subpart if you own or operate a MSW landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs (a)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in 40 CFR 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to Sec. 60.754(a) of the MSW landfills new source performance standards in 40 CFR part 60, subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan that applies to your landfill.

(b) You are subject to this subpart if you own or operate a MSW landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition, that includes a bioreactor, as defined in Sec. 63.1990, and that meets any one of the criteria in paragraphs (b)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in 40 CFR 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ and that is not permanently closed as of January 16, 2003.

§ 63.1940 What is the affected source of this subpart?

(a) An affected source of this subpart is a MSW landfill, as defined in Sec. 63.1990, that meets the criteria in Sec. 63.1935(a) or (b). The affected source includes the entire disposal facility in a contiguous geographic space where household waste is placed in or on land, including any portion of the MSW landfill operated as a bioreactor.

(b) A new affected source of this subpart is an affected source that commenced construction or reconstruction after November 7, 2000. An affected source is reconstructed if it meets the definition of reconstruction in 40 CFR 63.2 of subpart A.

(c) An affected source of this subpart is existing if it is not new.

Sec. 63.1945 When do I have to comply with this subpart?

(a) If your landfill is a new affected source, you must comply with this subpart by January 16, 2003 or at the time you begin operating, whichever is last.

(b) If your landfill is an existing affected source, you must comply with this subpart by January 16, 2004.

(c) If your landfill is a new affected source and is a major source or is collocated with a major source, you must comply with the requirements in Sec. Sec. 63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW.

(d) If your landfill is an existing affected source and is a major source or is collocated with a major source, you must comply with the requirements in Sec. Sec. 63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or EPA approved and effective State or tribal plan that applies to your landfill or by January 13, 2004, whichever occurs later.

(e) If your landfill is a new affected source and is an area source meeting the criteria in Sec. 63.1935(a)(3), you must comply with the requirements of Sec. Sec. 63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW.

(f) If your landfill is an existing affected source and is an area source meeting the criteria in Sec. 63.1935(a)(3), you must comply with the requirements in Sec. Sec. 63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or EPA approved and effective State or tribal plan that applies to your landfill or by January 16, 2004, whichever occurs later.

§ 63.1947 When do I have to comply with this subpart if I own or operate a bioreactor?

You must comply with this subpart by the dates specified in Sec. 63.1945(a) or (b) of this subpart. If you own or operate a bioreactor located at a landfill that is not permanently closed as of January 16, 2003 and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³, then you must install and operate a collection and control system that meets the criteria in 40 CFR 60.752(b)(2)(v) of part 60, subpart WWW, the Federal plan, or EPA approved and effective State plan according to the schedule specified in paragraph (a), (b), or (c) of this section.

(a) If your bioreactor is at a new affected source, then you must meet the requirements in paragraphs (a)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose to begin gas collection and control system operation 180 days after achieving a 40 percent moisture content instead of 180 days after liquids addition, use the procedures in Sec. 63.1980(g) and (h) to determine when the bioreactor moisture content reaches 40 percent.

(b) If your bioreactor is at an existing affected source, then you must install and begin operating the gas collection and control system for the bioreactor by January 17, 2006 or by the date your bioreactor is required to install a gas collection and control system under 40 CFR part 60, subpart WWW, the Federal plan, or EPA approved and effective State plan or tribal plan that applies to your landfill, whichever is earlier.

(c) If your bioreactor is at an existing affected source and you do not initiate liquids addition to your bioreactor until later than January 17, 2006, then you must meet the requirements in paragraphs (c)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose to begin gas collection and control system operation 180 days after achieving a 40 percent moisture content instead of 180 days after liquids addition, use the procedures in Sec. 63.1980(g) and (h) to determine when the bioreactor moisture content reaches 40 percent.

§ 63.1950 When am I no longer required to comply with this subpart?

You are no longer required to comply with the requirements of this subpart when you are no longer required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of subpart WWW, or the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to your landfill.

§ 63.1952 When am I no longer required to comply with the requirements of this subpart if I own or operate a bioreactor?

If you own or operate a landfill that includes a bioreactor, you are no longer required to comply with the requirements of this subpart for the bioreactor provided you meet the conditions of either paragraphs (a) or (b).

(a) Your affected source meets the control system removal criteria in 40 CFR 60.752(b)(2)(v) of part 60, subpart WWW or the bioreactor meets the criteria for a nonproductive area of the landfill in 40 CFR 60.759(a)(3)(ii) of part 60, subpart WWW.

(b) The bioreactor portion of the landfill is a closed landfill as defined in 40 CFR 60.751, subpart WWW, you have permanently ceased adding liquids to the bioreactor, and you have not added liquids to the bioreactor for at least 1 year. A closure report for the bioreactor must be submitted to the Administrator as provided in 40 CFR 60.757(d) of subpart WWW.

(c) Compliance with the bioreactor control removal provisions in this section constitutes compliance with 40 CFR part 60, subpart WWW or the Federal plan, whichever applies to your bioreactor.

§ 63.1985 Who enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency as well as the U.S. EPA has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are as follows. Approval of alternatives to the standards in Sec. 63.1955. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

§ 60.751 and 63.1990 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of this part.

Active collection system means a gas collection system that uses gas mover equipment.

Active landfill means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future.

Bioreactor means a MSW landfill or portion of a MSW landfill where any liquid other than leachate (leachate includes landfill gas condensate) is added in a controlled fashion into the waste mass (often in combination with recirculating leachate) to reach a minimum average moisture content of at least 40 percent by weight to accelerate or enhance the anaerobic (without oxygen) biodegradation of the waste.

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under § 60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed. A landfill is considered closed after meeting the criteria of § 258.60 of this title.

Closure means that point in time when a landfill becomes a closed landfill.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Controlled landfill means any landfill at which collection and control systems are required under this subpart as a result of the nonmethane organic compounds emission rate. The landfill is considered controlled at the time a collection and control system design plan is submitted in compliance with § 60.752(b)(2)(i).

Design capacity means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the State, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site specific density, which must be recalculated annually.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including, but not limited to, any emissions limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation, (including any operating limit), or work practice standard in this subpart during SSM, regardless of whether or not such failure is permitted by this subpart.

Disposal facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Emissions limitation means any emission limit, opacity limit, operating limit, or visible emissions limit.

Emission rate cutoff means the threshold annual emission rate to which a landfill compares its estimated emission rate to determine if control under the regulation is required.

Enclosed combustor means an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

Emissions limitation means any emission limit, opacity limit, operating limit, or visible emissions limit.

EPA approved State plan means a State plan that EPA has approved based on the requirements in 40 CFR part 60, subpart B to implement and enforce 40 CFR part 60, subpart Cc. An approved State plan becomes effective on the date specified in the notice published in the Federal Register announcing EPA's approval.

Federal plan means the EPA plan to implement 40 CFR part 60, subpart Cc for existing MSW landfills located in States and Indian country where State plans or tribal plans are not currently in effect. On the effective date of an EPA approved State or tribal plan, the Federal plan no longer applies. The Federal plan is found at 40 CFR part 62, subpart GGG.

Flare means an open combustor without enclosure or shroud.

Gas mover equipment means the equipment (i.e., fan, blower, compressor) used to transport landfill gas through the header system.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act, parts 264 and 265 of this title. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resin manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Interior well means any well or similar collection component located inside the perimeter of the landfill waste. A perimeter well located outside the landfilled waste is not an interior well.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under § 257.2 of this title.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill.

Modification means an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction or the horizontal or vertical expansion.

Municipal solid waste landfill or MSW landfill means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A municipal solid waste landfill may also receive other types of RCRA Subtitle D wastes (see Sec. 257.2 of this chapter) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of a municipal solid waste landfill may be separated by access roads. A municipal solid waste landfill may be publicly or privately owned. A municipal solid waste landfill may be a new municipal solid waste landfill, an existing municipal solid waste landfill, or a lateral expansion.

Municipal solid waste landfill emissions or MSW landfill emissions means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

NMOC means nonmethane organic compounds, as measured according to the provisions of § 60.754.

Nondegradable waste means any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals.

Passive collection system means a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment.

Sludge means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C 2011 et seq.).

Sufficient density means any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this part.

Sufficient extraction rate means a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.

Tribal plan means a plan submitted by a tribal authority pursuant to 40 CFR parts 9, 35, 49, 50, and 81 to implement and enforce 40 CFR part 60, subpart Cc.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

§ 60.752 Standards for air emissions from municipal solid waste landfills.

(a) Each owner or operator of an MSW landfill having a design capacity less than 2.5 million megagrams by mass or 2.5 million cubic meters by volume shall submit an initial design capacity report to the Administrator as provided in § 60.757(a). The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. Any density conversions shall be documented and submitted with the report. Submittal of the initial design capacity report shall fulfill the requirements of this subpart except as provided for in paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator shall submit to the Administrator an amended design capacity report, as provided for in § 60.757(a)(3).

(2) When an increase in the maximum design capacity of a landfill exempted from the provisions of § 60.752(b) through § 60.759 of this subpart on the basis of the design capacity exemption in paragraph (a) of this section results in a revised maximum design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, the owner or operator shall comply with the provision of paragraph (b) of this section.

(b) Each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, shall either comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using the procedures specified in § 60.754. The NMOC emission rate shall be recalculated annually, except as provided in § 60.757(b)(1)(ii) of this subpart. The owner or operator of an MSW landfill subject to this subpart with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters is subject to part 70 or 71 permitting requirements.

(1) If the calculated NMOC emission rate is less than 50 megagrams per year, the owner or operator shall:

(i) Submit an annual emission report to the Administrator, except as provided for in § 60.757(b)(1)(ii); and

(ii) Recalculate the NMOC emission rate annually using the procedures specified in § 60.754(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, or the landfill is closed.

(A) If the NMOC emission rate, upon recalculation required in paragraph (b)(1)(ii) of this section, is equal to or greater than 50 megagrams per year, the owner or operator shall install a collection and control system in compliance with paragraph (b)(2) of this section.

(B) If the landfill is permanently closed, a closure notification shall be submitted to the Administrator as provided for in § 60.757(d).

(2) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner or operator shall:

(i) Submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year:

(A) The collection and control system as described in the plan shall meet the design requirements of paragraph (b)(2)(ii) of this section.

(B) The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§ 60.753 through 60.758 proposed by the owner or operator.

(C) The collection and control system design plan shall either conform with specifications for active collection systems in § 60.759 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to § 60.759.

(D) The Administrator shall review the information submitted under paragraphs (b)(2)(i) (A), (B) and (C) of this section and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems.

(ii) Install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(i)(A) or (B) and (b)(2)(iii) of this section within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year, as specified in § 60.757(c)(1) or (2).

(A) An active collection system shall:

(1) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;

(2) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:

(i) 5 years or more if active; or

(ii) 2 years or more if closed or at final grade;

(3) Collect gas at a sufficient extraction rate;

(4) Be designed to minimize off-site migration of subsurface gas.

(B) A passive collection system shall:

(1) Comply with the provisions specified in paragraphs (b)(2)(ii)(A)(1), (2), and (2)(ii)(A)(4)

of this section.

(2) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under § 258.40 of this title.

(iii) Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of this section.

(A) An open flare designed and operated in accordance with § 60.18;

(B) A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or parts per million by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in § 60.754(d).

(1) If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.

(2) The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in § 60.756;

(C) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of paragraph (b)(2)(iii) (A) or (B) of this section.

(iv) Operate the collection and control device installed to comply with this subpart in accordance with the provisions of §§ 60.753, 60.755 and 60.756.

(v) The collection and control system may be capped or removed provided that all the conditions of paragraphs (b)(2)(v) (A), (B), and (C) of this section are met:

(A) The landfill shall be a closed landfill as defined in § 60.751 of this subpart. A closure report shall be submitted to the Administrator as provided in § 60.757(d);

(B) The collection and control system shall have been in operation a minimum of 15 years; and

(C) Following the procedures specified in § 60.754(b) of this subpart, the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

(c) For purposes of obtaining an operating permit under title V of the Act, the owner or operator of a MSW landfill subject to this subpart with a design capacity less than 2.5 million megagrams or 2.5 million cubic meters is not subject to the requirement to obtain an operating permit for the landfill under part 70 or 71 of this chapter, unless the landfill is otherwise subject to either part 70 or 71. For purposes of submitting a timely application for an operating permit under part 70 or 71, the owner or operator of a MSW landfill subject to

this subpart with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters, and not otherwise subject to either part 70 or 71, becomes subject to the requirements of §§ 70.5(a)(1)(i) or 71.5(a)(1)(i) of this chapter, regardless of when the design capacity report is actually submitted, no later than:

(1) June 10, 1996 for MSW landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996;

(2) Ninety days after the date of commenced construction, modification, or reconstruction for MSW landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(d) When a MSW landfill subject to this subpart is closed, the owner or operator is no longer subject to the requirement to maintain an operating permit under part 70 or 71 of this chapter for the landfill if the landfill is not otherwise subject to the requirements of either part 70 or 71 and if either of the following conditions are met:

(1) The landfill was never subject to the requirement for a control system under paragraph (b)(2) of this section; or

(2) The owner or operator meets the conditions for control system removal specified in paragraph (b)(2)(v) of this section.

§ 63.1955 What requirements must I meet?

(a) You must fulfill one of the requirements in paragraph (a)(1) or (2) of this section, whichever is applicable:

(1) Comply with the requirements of 40 CFR part 60, subpart WWW.

(2) Comply with the requirements of the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc.

(b) If you are required by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan to install a collection and control system, you must comply with the requirements in Sec. Sec. 63.1960 through 63.1985 and with the general provisions of this part specified in table 1 of this subpart.

(c) For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, you must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR part 60 subpart W or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the SSM requirements in Subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in Sec. 63.1980(a) and (b), including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined, using a 3 hour monitoring block average.

(d) If you own or operate a bioreactor that is located at a MSW landfill that is not permanently closed and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³, then you must meet the requirements of paragraph (a) and the additional requirements in paragraphs (d)(1) and (2) of this section.

(1) You must comply with the general provisions specified in Table 1 of this subpart and Sec. 63.1960 through 63.1985 starting on the date you are required to install the gas collection and control system.

(2) You must extend the collection and control system into each new cell or area of the bioreactor prior to initiating liquids addition in that area, instead of the schedule in 40 CFR 60.752(b)(2)(ii)(A)(2).

§ 60.753 Operational standards for collection and control systems.

Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of § 60.752(b)(2)(ii) of this subpart shall:

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

- (1) 5 years or more if active; or
- (2) 2 years or more if closed or at final grade;

(b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

- (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in § 60.757(f)(1);
- (2) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;
- (3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Administrator;

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55° C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

(1) The nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by § 60.752(b)(2)(i) of this subpart.

(2) Unless an alternative test method is established as allowed by § 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:

- (i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;
- (ii) A data recorder is not required;
- (iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span;
- (iv) A calibration error check is not required;
- (v) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

(e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with § 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour; and

(f) Operate the control or treatment system at all times when the collected gas is routed to the system.

(g) If monitoring demonstrates that the operational requirement in paragraphs (b), (c), or (d) of this section are not met, corrective action shall be taken as specified in § 60.755(a) (3) through (5) or § 60.755(c) of this subpart. If corrective actions are taken as specified in § 60.755, the monitored exceedance is not a violation of the operational requirements in this section.

§ 60.754 Test methods and procedures.

(a) (1) The landfill owner or operator shall calculate the NMOC emission rate using either the equation provided in paragraph (a)(1)(i) of this section or the equation provided in paragraph (a)(1)(ii) of this section. Both equations may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i), for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii), for part of the life of the landfill. The values to be used in both equations are 0.05 per year for k, 170 cubic meters per megagram for L_o , and 4,000 parts per million by volume as hexane for the C_{NMOC} . For landfills located in geographical areas with a thirty year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorologic site, the k value to be used is 0.02 per year.

(i) The following equation shall be used if the actual year-to-year solid waste acceptance rate is known.

$$M_{NMOC} = \sum_{i=1}^n 2kL_oM_i(e^{-kt}i)(C_{NMOC})(3.6 \times 10^{-9})$$

where,

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year

k = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the ith section, megagrams

t_i = age of the ith section, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

3.6×10^{-9} = conversion factor

The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if documentation of the nature and amount of such wastes is maintained.

(ii) The following equation shall be used if the actual year-to-year solid waste acceptance rate is unknown.

$$M_{NMOC} = 2L_o R (e^{-kc} - e^{-kt}) (C_{NMOC}) (3.6 \times 10^{-9})$$

where,

M_{NMOC} = mass emission rate of NMOC, megagrams per year

L_o = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, year⁻¹

t = age of landfill, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

c = time since closure, years. For active landfill c = 0 and $e^{-kc}=1$

3.6×10^{-9} = conversion factor

The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating a value for R, if documentation of the nature and amount of such wastes is maintained.

(2) Tier 1. The owner or operator shall compare the calculated NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 50 megagrams per year, then the landfill owner shall submit an emission rate report as provided in § 60.757(b)(1), and shall recalculate the NMOC mass emission rate annually as required under § 60.752(b)(1).

(ii) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, then the landfill owner shall either comply with § 60.752(b)(2), or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the procedures provided in paragraph (a)(3) of this section.

(3) Tier 2. The landfill owner or operator shall determine the NMOC concentration using the following sampling procedure. The landfill owner or operator shall install at least two sample probes per hectare of landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The sample probes should be located to avoid known areas of nondegradable solid waste. The owner or operator shall collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using Method 25 or 25C of Appendix A of this part. Method 18 of Appendix A of this part may be used to analyze the samples collected by the Method 25 or 25C sampling procedure. Taking composite samples from

different probes into a single cylinder is allowed; however, equal sample volumes must be taken from each probe. For each composite, the sampling rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal. Composite sample volumes should not be less than one liter unless evidence can be provided to substantiate the accuracy of smaller volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes. If using Method 18, the owner or operator must identify all compounds in the sample and, as a minimum, test for those compounds published in the most recent Compilation of Air Pollutant Emission Factors (AP-42), minus carbon monoxide, hydrogen sulfide, and mercury. As a minimum, the instrument must be calibrated for each of the compounds on the list. Convert the concentration of each Method 18 compound to CNMOC as hexane by multiplying by the ratio of its carbon atoms divided by six. If more than the required number of samples are taken, all samples must be used in the analysis. The landfill owner or operator must divide the NMOC concentration from Method 25 or 25C of Appendix A of this part by six to convert from CNMOC as carbon to CNMOC as hexane. If the landfill has an active or passive gas removal system in place, Method 25 or 25C samples may be collected from these systems instead of surface probes provided the removal system can be shown to provide sampling as representative as the two sampling probe per hectare requirement. For active collection systems, samples may be collected from the common header pipe before the gas moving or condensate removal equipment. For these systems, a minimum of three samples must be collected from the header pipe.

(i) The landfill owner or operator shall recalculate the NMOC mass emission rate using the equations provided in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using the average NMOC concentration from the collected samples instead of the default value in the equation provided in paragraph (a)(1) of this section.

(ii) If the resulting mass emission rate calculated using the site-specific NMOC concentration is equal to or greater than 50 megagrams per year, then the landfill owner or operator shall either comply with § 60.752(b)(2), or determine the site-specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the procedure specified in paragraph (a)(4) of this section.

(iii) If the resulting NMOC mass emission rate is less than 50 megagrams per year, the owner or operator shall submit a periodic estimate of the emission rate report as provided in § 60.757(b)(1) and retest the site-specific NMOC concentration every 5 years using the methods specified in this section.

(4) Tier 3. The site-specific methane generation rate constant shall be determined using the procedures provided in Method 2E of appendix A of this part. The landfill owner or operator shall estimate the NMOC mass emission rate using equations in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using a site-specific methane generation rate constant k , and the site-specific NMOC concentration as determined

in paragraph (a)(3) of this section instead of the default values provided in paragraph (a)(1) of this section. The landfill owner or operator shall compare the resulting NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC mass emission rate as calculated using the site-specific methane generation rate and concentration of NMOC is equal to or greater than 50 megagrams per year, the owner or operator shall comply with § 60.752(b)(2).

(ii) If the NMOC mass emission rate is less than 50 megagrams per year, then the owner or operator shall submit a periodic emission rate report as provided in § 60.757(b)(1) and shall recalculate the NMOC mass emission rate annually, as provided in § 60.757(b)(1) using the equations in paragraph (a)(1) of this section and using the site-specific methane generation rate constant and NMOC concentration obtained in paragraph (a)(3) of this section. The calculation of the methane generation rate constant is performed only once, and the value obtained from this test shall be used in all subsequent annual NMOC emission rate calculations.

(5) The owner or operator may use other methods to determine the NMOC concentration or a site-specific k as an alternative to the methods required in paragraphs (a)(3) and (a)(4) of this section if the method has been approved by the Administrator.

(b) After the installation of a collection and control system in compliance with § 60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in § 60.752(b)(2)(v), using the following equation:

$$M_{\text{NMOC}} = 1.89 \times 10^{-3} Q_{\text{LFG}} C_{\text{NMOC}}$$

where,

M_{NMOC} = mass emission rate of NMOC, megagrams per year

Q_{LFG} = flow rate of landfill gas, cubic meters per minute

C_{NMOC} = NMOC concentration, parts per million by volume as hexane

(1) The flow rate of landfill gas, Q_{LFG} , shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of appendix A of this part.

(2) The average NMOC concentration, C_{NMOC} , shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of appendix A of this part. If using Method 18 of appendix A of this part, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C of appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(3) The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

(c) When calculating emissions for PSD purposes, the owner or operator of each MSW landfill subject to the provisions of this subpart shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in §§ 51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures.

(d) For the performance test required in § 60.752(b)(2)(iii)(B), Method 25, 25C or Method 18 of appendix A of this part shall be used to determine compliance with 98 weight-percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by § 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8ppm NMOC as Hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A of this part, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency:

$$\text{Control Efficiency} = (\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / (\text{NMOC}_{\text{in}})$$

where,

NMOC_{in} = mass of NMOC entering control device

NMOC_{out} = mass of NMOC exiting control device

§ 60.755 Compliance provisions.

(a) Except as provided in § 60.752(b)(2)(i)(B), the specified methods in paragraphs (a)(1) through (a)(6) of this section shall be used to determine whether the gas collection system is in compliance with § 60.752(b)(2)(ii).

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with § 60.752(b)(2)(ii)(A)(1), one of the following equations shall be used. The k and L_o kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42) or other site specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in § 60.754(a)(4), the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(i) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_o R (e^{-kc} - e^{-kt})$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

L_o = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, year⁻¹

t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years

c = time since closure, years (for an active landfill $c = 0$ and $e^{-kc} = 1$)

(ii) For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^n 2kL_o M_i (e^{-kt_i})$$

where,

Q_M = maximum expected gas generation flow rate, cubic meters per year

k = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the i^{th} section, megagrams

t_i = age of the i^{th} section, years

(iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in paragraphs (a)(1) (i) and (ii) of this section. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in paragraphs (a)(1) (i) or (ii) or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

(2) For the purposes of determining sufficient density of gas collectors for compliance with § 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with § 60.752(b)(2)(ii)(A)(3), the owner or operator shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under § 60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

(4) Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

(5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in § 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

(6) An owner or operator seeking to demonstrate compliance with § 60.752(b)(2)(ii)(A)(4) through the use of a collection system not conforming to the specifications provided in § 60.759 shall provide information satisfactory to the Administrator as specified in § 60.752(b)(2)(i)(C) demonstrating that off-site migration is being controlled.

(b) For purposes of compliance with § 60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in § 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

- (1) 5 years or more if active; or
- (2) 2 years or more if closed or at final grade.

(c) The following procedures shall be used for compliance with the surface methane operational standard as provided in § 60.753(d).

(1) After installation of the collection system, the owner or operator shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of this section.

(2) The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

(3) Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of this part, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

(4) Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in paragraphs (c)(4) (i) through (v) of this section shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of § 60.753(d).

(i) The location of each monitored exceedance shall be marked and the location recorded.

(ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.

(iii) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of this section shall be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) has been taken.

(iv) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in paragraph (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month

from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (v) shall be taken.

(v) For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

(5) The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this section shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(1) The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of this part, except that "methane" shall replace all references to VOC.

(2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.

(3) To meet the performance evaluation requirements in section 3.1.3 of Method 21 of appendix A of this part, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of this part shall be used.

(4) The calibration procedures provided in section 4.2 of Method 21 of appendix A of this part shall be followed immediately before commencing a surface monitoring survey.

(e) The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

§ 63.1960 How is compliance determined?

Compliance is determined in the same way it is determined for 40 CFR part 60, subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d) of subpart WWW, are used to demonstrate compliance with the operating conditions for control systems. If a deviation occurs, you have failed to meet the control device operating conditions described in this subpart and have deviated from the requirements of this subpart. Finally, you must develop and implement a written SSM plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write, implement, or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.

§ 63.1965 What is a deviation?

A deviation is defined in Sec. 63.1990. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs (a) through (c) of this section.

(a) A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of subpart WWW are exceeded.

(b) A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.

(c) A deviation occurs when a SSM plan is not developed, implemented, or maintained on site.

§ 63.1975 How do I calculate the 3-hour block average used to demonstrate compliance?

Averages are calculated in the same way as they are calculated in 40 CFR part 60, subpart WWW, except that the data collected during the events listed in paragraphs (a), (b), (c), and (d) of this section are not to be included in any average computed under this subpart:

(a) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments.

(b) Startups.

(c) Shutdowns.

(d) Malfunctions.

§ 60.756 Monitoring of operations.

Except as provided in § 60.752(b)(2)(i)(B),

(a) Each owner or operator seeking to comply with § 60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer other temperature measuring device, or an access port for temperature measurements at each wellhead and:

- (1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in § 60.755(a)(3); and
- (2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in § 60.755(a)(5); and
- (3) Monitor temperature of the landfill gas on a monthly basis as provided in § 60.755(a)(5).

(b) Each owner or operator seeking to comply with § 60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.

(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees C, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.

(2) A device that records flow to or bypass of the control device. The owner or operator shall either:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c) Each owner or operator seeking to comply with § 60.752(b)(2)(iii) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(1) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.

(2) A device that records flow to or bypass of the flare. The owner or operator shall either:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(d) Each owner or operator seeking to demonstrate compliance with § 60.752(b)(2)(iii) using a device other than an open flare or an enclosed combustor shall provide information satisfactory to the Administrator as provided in § 60.752(b)(2)(i)(B) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator shall review the information and either approve it, or request that additional information be submitted. The Administrator may specify additional appropriate monitoring procedures.

(e) Each owner or operator seeking to install a collection system that does not meet the specifications in § 60.759 or seeking to monitor alternative parameters to those required by § 60.753 through § 60.756 shall provide information satisfactory to the Administrator as provided in § 60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.

(f) Each owner or operator seeking to demonstrate compliance with § 60.755(c), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in § 60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

§ 60.757 Reporting requirements.

Except as provided in § 60.752(b)(2)(i)(B),

(a) Each owner or operator subject to the requirements of this subpart shall submit an initial design capacity report to the Administrator.

(1) The initial design capacity report shall fulfill the requirements of the notification of the date construction is commenced as required by § 60.7(a)(1) and shall be submitted no later than:

(i) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996 or

(ii) Ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(2) The initial design capacity report shall contain the following information:

(i) A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the State, local, or tribal agency responsible for regulating the landfill.

(ii) The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the State, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity shall be calculated using good engineering practices. The calculations shall be provided, along with the relevant parameters as part of the report. The State, Tribal, local agency or Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

(3) An amended design capacity report shall be submitted to the Administrator providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in § 60.758(f).

(b) Each owner or operator subject to the requirements of this subpart shall submit an NMOC emission rate report to the Administrator initially and annually thereafter, except as provided for in paragraphs (b)(1)(ii) or (b)(3) of this section. The Administrator may request such additional information as may be necessary to verify the reported NMOC emission rate.

(1) The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in § 60.754(a) or (b), as applicable.

(i) The initial NMOC emission rate report may be combined with the initial design capacity report required in paragraph (a) of this section and shall be submitted no later than indicated in paragraphs (b)(1)(i)(A) and (B) of this section. Subsequent NMOC emission rate reports shall be submitted annually thereafter, except as provided for in paragraphs (b)(1)(ii) and (b)(3) of this section.

(A) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991, but before March 12, 1996, or

(B) Ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(ii) If the estimated NMOC emission rate as reported in the annual report to the Administrator is less than 50 megagrams per year in each of the next 5 consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based shall be provided to the Administrator. This estimate shall be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate shall be submitted to the Administrator. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

(2) The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.

(3) Each owner or operator subject to the requirements of this subpart is exempted from the requirements of paragraphs (b)(1) and (2) of this section, after the installation of a collection and control system in compliance with § 60.752(b)(2), during such time as the collection and control system is in operation and in compliance with §§ 60.753 and 60.755.

(c) Each owner or operator subject to the provisions of § 60.752(b)(2)(i) shall submit a collection and control system design plan to the Administrator within 1 year of the first report required under paragraph (b) of this section, in which the emission rate exceeds 50 megagrams per year, except as follows:

(1) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in § 60.754(a)(3) and the resulting rate is less than 50 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 megagrams per year.

(2) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant (k), as provided in Tier 3 in § 60.754(a)(4), and the resulting NMOC emission rate is less than 50 Mg/yr, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate

report based on the provisions of § 60.754(a)(4) and the resulting site-specific methane generation rate constant (k) shall be submitted to the Administrator within 1 year of the first calculated emission rate exceeding 50 megagrams per year.

(d) Each owner or operator of a controlled landfill shall submit a closure report to the Administrator within 30 days of waste acceptance cessation. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under § 60.7(a)(4).

(e) Each owner or operator of a controlled landfill shall submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

(1) The equipment removal report shall contain all of the following items:

(i) A copy of the closure report submitted in accordance with paragraph (d) of this section;

(ii) A copy of the initial performance test report demonstrating that the 15 year minimum control period has

expired; and

(iii) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

(2) The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in § 60.752(b)(2)(v) have been met.

(f) Each owner or operator of a landfill seeking to comply with § 60.752(b)(2) using an active collection system designed in accordance with § 60.752(b)(2)(ii) shall submit to the Administrator annual reports of the recorded information in (f)(1) through (f)(6) of this paragraph. The initial annual report* shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under § 60.8. For enclosed combustion devices and flares, reportable exceedances are defined under § 60.758(c). ***§63.1980(a) states that you must submit the annual report described in §60.757(f) every 6 months.**

(1) Value and length of time for exceedance of applicable parameters monitored under § 60.756(a), (b), (c), and (d).

(2) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under § 60.756.

(3) Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.

(4) All periods when the collection system was not operating in excess of 5 days.

(5) The location of each exceedance of the 500 parts per million methane concentration as provided in § 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.

(6) The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of § 60.755.

(g) Each owner or operator seeking to comply with § 60.752(b)(2)(iii) shall include the following information with the initial performance test report required under § 60.8:

(1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

(2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

(3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

(4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;

and

(5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

(6) The provisions for the control of off-site migration.

§ 60.758 Recordkeeping requirements.

(a) Except as provided in § 60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of § 60.752(b) shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which triggered § 60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(b) Except as provided in § 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs (b)(1) through (b)(4) of this section as measured during the

initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.

(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.752(b)(2)(ii):

(i) The maximum expected gas generation flow rate as calculated in § 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.

(ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in § 60.759(a)(1).

(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.752(b)(2)(iii) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity greater than 44 megawatts:

(i) The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(ii) The percent reduction of NMOC determined as specified in § 60.752(b)(2)(iii)(B) achieved by the control device.

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.752(b)(2)(iii)(B)(1) through use of a boiler or process heater of any size: a description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.752(b)(2)(iii)(A) through use of an open flare, the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in § 60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

(c) Except as provided in § 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill subject to the provisions of this subpart shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in § 60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The following constitute exceedances that shall be recorded and reported under § 60.757(f):

(i) For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28 °C below the average combustion temperature during the most recent performance test at which compliance with § 60.752(b)(2)(iii) was determined.

(ii) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (b)(3) of this section.

(2) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under § 60.756.

(3) Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with § 60.752(b)(2)(iii) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater.

(Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State, local, Tribal, or Federal regulatory requirements.)

(4) Each owner or operator seeking to comply with the provisions of this subpart by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under § 60.756(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(d) Except as provided in § 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.

(1) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under § 60.755(b).

(2) Each owner or operator subject to the provisions of this subpart shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in § 60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in § 60.759(a)(3)(ii).

(e) Except as provided in § 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in § 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

§ 63.1980 What records and reports must I keep and submit?

(a) Keep records and reports as specified in 40 CFR part 60, subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to your landfill, with one exception: You must submit the annual report described in 40 CFR 60.757(f) every 6 months.

(b) You must also keep records and reports as specified in the general provisions of 40 CFR part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.

(c) For bioreactors at new affected sources you must submit the initial semiannual compliance report and performance test results described in 40 CFR 60.757(f) within 180 days after the date you are required to begin operating the gas collection and control system by Sec. 63.1947(a)(2) of this subpart.

(d) For bioreactors at existing affected sources, you must submit the initial semiannual compliance report and performance test results described in 40 CFR 60.757(f) within 180 days after the compliance date specified in Sec. 63.1947(b) of this subpart, unless you have previously submitted a compliance report for the bioreactor required by 40 CFR part 60, subpart WWW, the Federal plan, or an EPA approved and effective State plan or tribal plan.

(e) For bioreactors that are located at existing affected sources, but do not initiate liquids addition until later than the compliance date in Sec. 63.1947(b) of this subpart, you must submit the initial semiannual compliance report and performance tests results described in 40 CFR 60.757(f) within 180 days after the date you are required to begin operating the gas collection and control system by Sec. 63.1947(c) of this subpart.

(f) If you must submit a semiannual compliance report for a bioreactor as well as a semiannual compliance report for a conventional portion of the same landfill, you may delay submittal of a subsequent semiannual compliance report for the bioreactor according to paragraphs (f)(1) through (3) of this section so that the reports may be submitted on the same schedule.

(1) After submittal of your initial semiannual compliance report and performance test results for the bioreactor, you may delay submittal of the subsequent semiannual compliance report for the bioreactor until the date the initial or subsequent semiannual compliance report is due for the conventional portion of your landfill.

(2) You may delay submittal of your subsequent semiannual compliance report by no more than 12 months after the due date for submitting the initial semiannual compliance report and performance test results described in 40 CFR 60.757(f) for the bioreactor. The report shall cover the time period since the previous semiannual report for the bioreactor, which would be a period of at least 6 months and no more than 12 months.

(3) After the delayed semiannual report, all subsequent semiannual reports for the bioreactor must be submitted every 6 months on the same date the semiannual report for the conventional portion of the landfill is due.

(g) If you add any liquids other than leachate in a controlled fashion to the waste mass and do not comply with the bioreactor requirements in Sec. Sec. 63.1947, 63.1955(c) and 63.1980(c) through (f) of this subpart, you must keep a record of calculations showing that the percent moisture by weight expected in the waste mass to which liquid is added is less than 40 percent. The calculation must consider the waste mass, moisture content of the incoming waste, mass of water added to the waste including leachate recirculation and other liquids addition and precipitation, and the mass of water removed through leachate or other water losses. Moisture level sampling or mass balances calculations can be used. You must document the calculations and the basis of any assumptions. Keep the record of the calculations until you cease liquids addition.

(h) If you calculate moisture content to establish the date your bioreactor is required to begin operating the collection and control system under Sec. 63.1947(a)(2) or (c)(2), keep a record of the calculations including the information specified in paragraph (g) of this section for 5 years. Within 90 days after the bioreactor achieves 40 percent moisture content, report the results of the calculation, the date the bioreactor achieved 40 percent moisture content by weight, and the date you plan to begin collection and control system operation.

§ 60.759 Specifications for active collection systems.

(a) Each owner or operator seeking to comply with § 60.752(b)(2)(i) shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Administrator as provided in § 60.752(b)(2)(i)(C) and (D):

(1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.

(2) The sufficient density of gas collection devices determined in paragraph (a)(1) of this section shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

(3) The placement of gas collection devices determined in paragraph (a)(1) of this section shall control all gas producing areas, except as provided by paragraphs (a)(3)(i) and (a)(3)(ii) of this section.

(i) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under § 60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Administrator upon request.

(ii) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and

provided to the Administrator upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation:

$$Q_i = 2 k L_o M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9})$$

where,

Q_i = NMOC emission rate from the i th section, megagrams per year

k = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of the degradable solid waste in the i th section, megagram

t_i = age of the solid waste in the i th section, years

C_{NMOC} = concentration of nonmethane organic compounds, parts per million by volume

3.6×10^{-9} = conversion factor

(iii) The values for k and C_{NMOC} determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k , L_o and C_{NMOC} provided in § 60.754(a)(1) or the alternative values from § 60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a)(3)(i) of this section.

(b) Each owner or operator seeking to comply with § 60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

(c) Each owner or operator seeking to comply with § 60.752(b)(2)(i)(A) shall convey the landfill gas to a control system in compliance with § 60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:

(1) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (c)(2) of this section shall be used.

(2) For new collection systems, the maximum flow rate shall be in accordance with § 60.755(a)(1).

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Appendix B

40 CFR Part 60, Subpart WWW and 40 CFR Part 63, Subpart AAAA Combined General Provisions

§ 60.1 Applicability.

(a) Except as provided in 40 CFR 60 subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (CAA) as amended November 15, 1990 (42 U.S.C. 7661).

[40 CFR 60.1(a), (b) and (c)]

§ 63.1 Applicability.

(a) **General. Affected Sources are already subject to the provisions of paragraphs (a)(10)-(12) through the same provisions under 40 CFR, part 60 subpart A.**

(1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2.

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.

(4) (i) Each relevant standard in this part 63 must identify explicitly whether each provision in this subpart A is or is not included in such relevant standard.

(ii) If a relevant part 63 standard incorporates the requirements of 40 CFR part 60, part 61, or other part 63 standards, the relevant part 63 standard must identify explicitly the applicability of each corresponding part 60, part 61, or other part 63 subpart A (General) Provision.

(iii) The General Provisions in this Subpart A do not apply to regulations developed pursuant to section 112(r) of the amended Act., unless otherwise specified in those regulations.

(5) [Reserved]

(6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD-13), Research Triangle Park, North Carolina 27711.

(7)-(14) [Reserved]

(b) **Initial applicability determination for this part.**

(1) The provisions of this part apply to the owner or operator of any stationary source that –

(i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and

(ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.

(2) [Reserved]

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Appendix C

**40 CFR Part 60, Subpart WWW and 40 CFR Part 63, Subpart AAAA
Combined Standard Conditions**

Subpart WWW--Standards of Performance for Municipal Solid Waste Landfills and Subpart AAAA--National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

§ 60.750 Applicability, designation of affected facility, and delegation of authority.

(a) The provisions of this subpart apply to each municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991. Physical or operational changes made to an existing MSW landfill solely to comply with Subpart Cc of this part are not considered construction, reconstruction, or modification for the purposes of this section.

(b) The following authorities shall be retained by the Administrator and not transferred to the State: § 60.754(a)(5).

(c) Activities required by or conducted pursuant to a CERCLA, RCRA, or State remedial action are not considered construction, reconstruction, or modification for purposes of this subpart.

§ 63.1930 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills. This subpart requires all landfills described in Sec. 63.1935 to meet the requirements of 40 CFR part 60, subpart Cc or WWW and requires timely control of bioreactors. This subpart also requires such landfills to meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges. It also includes additional reporting requirements.

§ 63.1935 Am I subject to this subpart?

You are subject to this subpart if you meet the criteria in paragraph (a) or (b) of this section.

(a) You are subject to this subpart if you own or operate a MSW landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs (a)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in 40 CFR 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to Sec. 60.754(a) of the MSW landfills new source performance standards in 40 CFR part 60, subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan that applies to your landfill.

(b) You are subject to this subpart if you own or operate a MSW landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition, that includes a bioreactor, as defined in Sec. 63.1990, and that meets any one of the criteria in paragraphs (b)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in 40 CFR 63.2 of subpart A.

(2) Your MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of subpart A.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ and that is not permanently closed as of January 16, 2003.

§ 63.1940 What is the affected source of this subpart?

(a) An affected source of this subpart is a MSW landfill, as defined in Sec. 63.1990, that meets the criteria in Sec. 63.1935(a) or (b). The affected source includes the entire disposal facility in a contiguous geographic space where household waste is placed in or on land, including any portion of the MSW landfill operated as a bioreactor.

(b) A new affected source of this subpart is an affected source that commenced construction or reconstruction after November 7, 2000. An affected source is reconstructed if it meets the definition of reconstruction in 40 CFR 63.2 of subpart A.

(c) An affected source of this subpart is existing if it is not new.

Sec. 63.1945 When do I have to comply with this subpart?

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APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06)

Chapter 62-4, F.A.C.

1. **Not federally enforceable.** General Prohibition. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, constructed, expanded, or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit.

[Rule 62-4.030, Florida Administrative Code (F.A.C.); and, Section 403.087, Florida Statute (F.S.)]

2. **Not federally enforceable.** Procedures to Obtain Permits and Other Authorizations; Applications.

(1) Any person desiring to obtain a permit from the Department shall apply on forms prescribed by the Department and shall submit such additional information as the Department by law may require. (2) All applications and supporting documents shall be filed in quadruplicate with the Department. (3) To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. All applications for a Department permit shall be certified by a professional engineer registered in the State of Florida except, when the application is for renewal of an air pollution operation permit at a non-Title V source as defined in Rule 62-210.200, F.A.C., or where professional engineering is not required by Chapter 471, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them. (4) Processing fees for air construction permits shall be in accordance with Rule 62-4.050(4), F.A.C. (5)(a) To be considered by the Department, each application must be accompanied by the proper processing fee. The fee shall be paid by check, payable to the Department of Environmental Protection. The fee is non-refundable except as provided in Section 120.60, F.S., and in this section. (b) When an application is received without the required fee, the Department shall acknowledge receipt of the application and shall immediately notify the applicant by certified mail that the required fee was not received and advise the applicant of the correct fee. The Department shall take no further action until the correct fee is received. If a fee was received by the Department which is less than the amount required, the Department shall return the fee along with the written notification. (c) Upon receipt of the proper application fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin. (d) If the applicant does not submit the required fee within ten days of receipt of written notification, the Department shall either return the unprocessed application or arrange with the applicant for the pick up of the application. (e) If an applicant submits an application fee in excess of the required fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin upon receipt, and the Department shall refund to the applicant the amount received in excess of the required fee. (6) Any substantial modification to a complete application shall require an additional processing fee determined pursuant to the schedule set forth in Rule 62-4.050, F.A.C., and shall restart the time requirements of Sections 120.60 and 403.0876, F.S. For purposes of this subsection, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review. (7) Modifications to existing permits proposed by the permittee which require substantial changes in the existing permit or require substantial evaluation by the Department of potential impacts of the proposed modifications shall require the same fee as a new application for the same time duration except for modification under Chapter 62-45, F.A.C. [Rule 62-4.050, F.A.C.]

3. Standards for Issuing or Denying Permits. Except as provided at Rule 62-213.460, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules. [Rule 62-4.070(7), F.A.C.]

4. Modification of Permit Conditions.

(1) For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time. For the purpose of this section, good cause shall include, but not be limited to, any of the following: **(also, see Condition No. 38.)** (a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship. (b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S. (c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards. (e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance. (2) A permittee may request a modification of a permit by applying to the Department. (3) A permittee may request that

40 CFR 60 Subpart WWW and 40 CFR 63 Subpart AAAA (7/10/03)

TABLE 1. SUMMARY OF MONITORING REQUIREMENTS FOR MSW LANDFILLS

Equipment	Monitoring Action	Schedule	Reference
Gas Collection System	Monitor gauge pressure within each gas extraction well. A negative value indicates a well is operating with a sufficient gas extraction rate.	Monthly	§60.756(a)(1)
	Monitor nitrogen concentration using Method 3C or oxygen concentration using Method 3A. Nitrogen concentration values <20 percent or oxygen concentration values < 5 percent indicate well extraction rates are,not causing excessive air infiltration into the landfill.	Monthly	§60.756(a)(2)
	Monitor LFG temperature in extraction well; should be <55°C (131°F), unless otherwise demonstrated that a higher temperature is appropriate. An elevated LFG temperature is an indicator of subsurface fires and aerobic conditions within the landfill.	Monthly	§60.756(a)(3)
	Monitor methane concentration at the landfill surface. Values <500 ppm above background indicate well extraction rates are sufficient to minimize the amount of LFG seeping out of the landfill.	Quarterly OR Skip Method ^a	§60.755(c) and §60.756(f)
	For an alternative gas collection system design, the owner/operator must submit appropriate monitoring requirements to the implementing agency for approval.	To Be Determined	§60.756(e)
	Gas Control System	Record gas flow from collection system to enclosed combustion device (unless bypass line valves are secured in a closed position with car-seal or lock-and-key type configuration). This requirement identifies periods when gas flow has been diverted from the control device.	At least once every 15 minutes OR Monthly inspections of bypass line seals
Monitor gas flow from collection system to open flare (unless bypass line valves are secured in a closed position with car-seal or lock-and-key type configuration). This requirement identifies periods when gas flow has been diverted from the control device.		At least once every 15 minutes OR Monthly inspections of bypass line seals	§60.756(c)(2)
Monitor combustion temperature of the enclosed combustion device with a temperature monitoring device equipped with a continuous recorder. (Temperature monitoring is not required for a boiler or process heater >44 megawatts) This requirement identifies operational and performance status of control device.		Continuous	§60.756(b)(1)
Monitor the continuous presence of a pilot flame or the flare flame for an open flare. This requirement confirms operational status of control device.		Continuous	§60.756(c)(1)
For an alternative control device, the owner/operator must submit appropriate monitoring requirements to the implementing agency for approval.		To Be Determined	§60.756(d)

^a When monitoring of methane concentration for a closed landfill shows no exceedances for three consecutive quarterly monitoring periods, then monitoring can be "skipped" to annual monitoring. Any exceedance of the 500 ppm methane standard returns the landfill to quarterly monitoring.

40 CFR 60 Subpart WWW and 40 CFR 63 Subpart AAAA (7/10/03)

TABLE 2. SUMMARY OF RECORDKEEPING REQUIREMENTS FOR MSW LANDFILLS

Operation	Recordkeeping Item	Reference
Landfill Design Capacity	If Design Capacity was converted from mass to volume or volume to mass to demonstrate that design capacity is <2.5 million Mg or 2.5 million m ³ , records of annual recalculation of site-specific density, design capacity, and supporting documentation.	§60.758(f)
Landfill and Control System Design	Current maximum design capacity, current amount of refuse-in-place, and year-by-year refuse accumulation rates	§60.758(a)
	Plot map showing each existing and planned well in the gas collection system. Provide unique identifying labels for each well. Installation date and location of all newly installed wells per §60.755(b). Description, location, amount, and placement date of all nondegradable refuse including asbestos and demolition refuse placed in landfill areas which are excluded from LFG collection and control.	§60.758(d) §60.758(d)(1) §60.758(d)(2)
Monitored Operating Parameters for Gas Collection and Control Systems	(1) Gauge pressure in each extraction well, (2) Nitrogen or oxygen concentration in extracted LFG. (3) Temperature of extracted LFG. (4) Methane concentrations along landfill surface. (5) Gas flow from collection system to the BDT control device (or seal bypass lines and inspect seals). (6) Combustion temperature of an enclosed combustion device or the continuous presence of a pilot flame for an open flare. (7) Operating parameters for alternative collection and control system designs, which are specified by the landfill and approved by the implementing agency.	§60.756(a)(1) §60.756(a)(2) §60.756(a)(3) §60.756(f) §60.756(b)(2)(i) & (ii) §60.756(c) §60.756(e)
Collection and Control System Design and Measurements From Initial Performance Test	Maximum expected gas generation flow rate Density of wells, horizontal collectors, surface collectors, or other gas extraction devices. For open flares: (1) Type of flare (steam-, air-, or non-assisted), (2) All visible emission readings, (3) Heat content determination, (4) Gas flow rate or bypass measurements, (5) Exit velocity determinations, (6) Continuous pilot flame or flare flame monitoring, and (7) All periods when pilot flame or flare flame is absent.	§60.758(b)(1)(i) §60.758(b)(1)(ii)
	For enclosed combustion devices (except for boilers/process heaters with a heat input ≥ 44 Megawatts [150 million Btu/hr]) (1) Average combustion temperature measured at least every 15 minutes and averaged over the performance test duration (2) Percent reduction of NMOC's by the control device. For boilers/process heaters (of any size) Describe Location where LFG is introduced into the boiler flame zone.	§60.758(b)(2)(i) §60.758(b)(2)(ii) §60.758(b)(3)
Gas Control System: Periods When Operating Parameters Exceeded Limits Set by Most Recent Performance Test	For an open flare: Record all pilot flame or flare flame monitoring data and all periods when pilot flame or Flare flame was absent.	§60.758(c)(4)
	For enclosed combustion devices (except for boilers/process heaters with a heat input ≥ 44 Megawatts [150 million Btu/hr]) Record all 3-hour periods in which the average combustion temperature was more than 28degrees C (50 degrees F) below the average combustion temperature measured during the most recent performance test.	§60.758(c)(1)(i)
	For boilers/process heaters with a heat input ≥ 44 Megawatts {150 Million Btu/hr} Document all periods of operation by recording parameters, such as steam use, fuel use, Or other specified parameters required by other regulatory agencies.	§60.758(c)(3)
	For boilers/process heaters Document any changes to the location where collected LFG is introduced in the boiler Flame zone.	§60.758(c)(1)(ii)
	Records of continuous flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines.	§60.758(c)(2)
	Records of continuous flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines.	§60.758(c)(2)
Gas Collection and Control System: Exceedances of operational standards	Record all values which exceed the operational standards specified in §60.753. Also include the operating value from the next monitoring period and the location of each exceedance: (1) New well installation, (2) Pressure in each extraction well, (3) Nitrogen concentration or oxygen concentration in extracted LFG, (4) Temperature of extracted LFG, (5) Methane concentrations along landfill surface, (6) Collected LFG is routed to control device at all times, note periods when the collection system and/or control device were not operational.	§60.758(e)
Startup Shutdown and Malfunction	Occurrence and duration of each SSM of operation (i.e. process equipment)	§63.10(d)(2)(i)
	Occurrence and duration of each SSM of required air pollution control and monitoring equipment	§63.10(d)(2)(ii)
	All required maintenance performed on the air pollution control and monitoring equipment	§63.10(d)(2)(iii)
	Actions taken when procedures are different than specified in §63.6(e)(3)	§63.10(d)(2)(iv)
	All information necessary to demonstrate conformance with the affected source's SSM plan	§63.10(d)(2)(v)
Bioreactors	General Recordkeeping Requirements	§63.1980(b), (g)-(h)

40 CFR 60 Subpart WWW and 40 CFR 63 Subpart AAAA (7/10/03)

TABLE 3. SUMMARY OF COMPLIANCE REPORTING REQUIREMENTS FOR MSW LANDFILLS

Report or Action	Schedule	Reference
Initial Design Capacity Report	Submit report no later than (1) June 10, 1996 for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996, or (2) 90 days after the date the landfill commenced construction, modification, or reconstruction on or after March 12, 1996.	§60.757(a)(1) §60.757(a)(2)
Amended Design Capacity Report	If design capacity is increased to a value that equals or exceeds 2.5 million Mg, the landfill must submit an Amended Design Capacity Report. Submit report 90 days of an increase in the maximum design capacity of the landfill to or above the 2.5 million Mg and 2.5 million m ³ size exemption	§60.757(a)(3)
Annual <u>OR</u> Five-Year ^a NMOC Emission Rate Report (Tier 1)	Submit initial report no later than: (1) June 10, 1996 for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996, or (2) 90 days after the date the landfill commenced construction, modification, or reconstruction on or after March 12, 1996. May submit with Initial Design Capacity Report. Repeat either once a year <u>OR</u> once every 5 years.	§60.757(b)
Revised NMOC Emission Rate Report (Tier 2)	If Tier 1 analysis results in NMOC emissions ≥50 Mg/yr, a revised NMOC emission rate report using data gathered from Tier 2 analysis can be submitted within 180 days of the initial calculated exceedance.	§60.757(c)(1)
Revised NMOC Emission Rate Report (Tier 3)	If Tier 2 analysis results in NMOC emissions <50 Mg/yr, a revised NMOC Emission Rate Report using data gathered from Tier 3 analysis can be submitted within 1 year of the initial calculated exceedance.	§60.757(c)(2)
Collection and Control System Design Plan	Within 1 year after submitting NMOC Emission Report with a value ≥ 50 Mg/yr. Plans must gain Agency approval prior to installation.	§60.757(c)
Emission Control System Start-up	Control system based on approved design will startup within 30 months after submitting NMOC Emission Rate Report with a value ≥50 Mg/yr.	§60.752(b)(2)(ii)
Initial Control System Performance Test Report	Submit report within 180 days of emission collection and control system start-up per §60.8. Results can be included in the initial Annual Report.	§60.757(g)
Annual Compliance Report	Submit initial report within 180 days of emission collection and control system start-up. Report once every 6 months. [Required semi-annually by 40 CFR 63 Subpart AAAA.]	§60.757(f) §63.1980(a)
Landfill Closure Report	When landfill is no longer accepting refuse and the landfill is considered closed. Submit report within 30 days of refuse acceptance cessation.	§60.757(d)
Control Equipment Removal Report	Submit report within 30 days prior to removal or cessation of control system operations. Controls can be removed after meeting all of these criteria: (1) Landfill Closure Report has been submitted, (2) Control system was operated for at least 15 years, and (3) Three consecutive NMOC Emission Rate Reports with values <50 Mg/yr achieved.	§60.757(e)
Startup, Shutdown, and Malfunction Plan	Plan shall be developed by the owner or operator and submitted by January 16, 2004.	§63.6(e)(3)
	General Report Requirements	§63.10(d)(5)(i) & (ii)
Bioreactors	General report Requirements	§63.1980(b)-(f)



Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Colleen M. Castille
Secretary

ELECTRONIC MAIL

Jim.Becker@ocfl.net

James W. Becker, Manager
Orange County Solid Waste Division
Orange County Board of County Commissioners
5901 Young Pine Road
Orlando, Florida 32829

Re: Title V Air Operation Permit Renewal
PROPOSED Permit No.: 0950113-004-AV
Orange County Solid Waste Management Facility

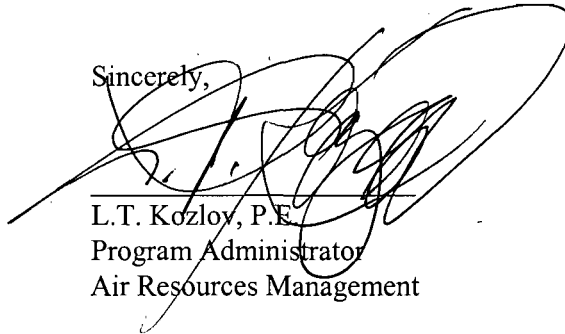
Dear Mr. Becker:

One copy of the "PROPOSED Determination" for the Title V Air Operation Permit for the Orange County Solid Waste Management Facility located at 5901 Young Pine Road, Orlando, Orange County, is enclosed. This letter is only a courtesy to inform you that the DRAFT Permit has become a PROPOSED Permit.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED Permit is made by the USEPA within 45 days, the PROPOSED permit will become a FINAL Permit no later than 55 days after the date on which the PROPOSED permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED Permit, the FINAL Permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact Alan Zahm, P.E. at 407/893-3335.

Sincerely,



L.T. Kozloy, P.E.
Program Administrator
Air Resources Management



LTK/jar

Enclosures

Copy furnished to:

Jim Nissen, P.E., Brown and Caldwell, (jnissen@brwncauld.com)
Barbara Friday, BAR [Barbara.Friday@dep.state.fl.us] (for posting with Region 4, U.S. EPA)
Hamp Pridgen, Air Section Manager, OCEPD, (Hamp.Pridgen@ocfl.net)

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PROPOSED Determination

PROPOSED Permit No.: 0950113-004-AV

Page 1 of 1

I. Public Notice.

An "INTENT TO ISSUE TITLE V AIR OPERATION PERMIT RENEWAL" to Orange County Board of County Commissioners for the Orange County Solid Waste Management Facility located at 5901 Young Pine Road, Orlando, Orange County was clerked on November 2, 2006. The "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" was published in the Orlando Sentinel on November 12, 2006. The DRAFT Title V Air Operation Permit was available for public inspection at the permitting authority's office in Orlando. Proof of publication of the "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" was received on November 17, 2006.

II. Public Comment(s).

No comments were received during the 30 (thirty) day public comment period. Since no comments were received, the DRAFT Permit becomes the PROPOSED Permit.

III. Conclusion.

Since there were no comments received during the Public Notice period, no changes were made to the DRAFT Permit and the permitting authority hereby issues the PROPOSED Permit, No. 0950113-004-AV.

STATEMENT OF BASIS

Orange County Board of County Commissioners
Orange County Solid Waste Management Facility
Facility ID No.: 0950113
Orange County

Title V Air Operation Permit Renewal
PROPOSED Permit Project No.: 0950113-004-AV

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

The subject of this permit is for the renewal of the Title V Air Operation Permit.

Orange County operates the Orange County Solid Waste Management Facility (landfill) identified as emissions unit 001 (EU -001). This facility consists of an active, Class I municipal solid waste disposal facility (landfill) that has been in operation since 1974. The design capacity of the landfill is greater than 2.5 million megagrams by mass or 2.5 million cubic meters by volume. It is an active asbestos waste disposal site. There is no bioreactor at the landfill. Non-methane organic compound (NMOC) emissions are calculated to be equal to or greater than 50 megagrams per year. The landfill has a flare control system to control the emissions of volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and sulfur compounds. The flare control system is not subject to compliance assurance monitoring (CAM) under 40 CFR Part 64; therefore, CAM does not apply to the facility (landfill).

E.U. 001 - The facility is subject to the following: 40 CFR Part 60, Subparts A (General Provisions) and WWW (Standards of Performance for Municipal Solid Waste Landfills); 40 CFR Part 63, Subparts A (General Provisions) and AAAA (National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills); with the exception of the candlestick flare control system, which shall have no visible emissions per 40 CFR Part 60.18(c)(1), the facility is subject to the General Visible Emissions (VE) limit of less than 20 percent per Rule 62-296.320(4)(b)1., F.A.C., VE testing of the candlestick flare is required annually; the General Volatile Organic Compound (VOC) standard per Rule 62-296.320(1)(a), F.A.C.; and the Objectionable Odor Rule per Rule 62-296.320(2), F.A.C.

Also included in this permit are miscellaneous insignificant emissions units and/or activities.

Based on the Title V Air Operation Permit Renewal application received August 25, 2006, this facility (landfill) is not a major source of hazardous air pollutants (HAPs).

Orange County Board of County Commissioners
Orange County Solid Waste Management Facility
Facility ID No.: 0950113
Orange County

Title V Air Operation Permit Renewal

PROPOSED Permit Project No.: 0950113-004-AV

Permitting Authority:
DEP Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Telephone: 407/894-7555
Fax: 407/897-5963

Compliance Authority:
DEP Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Telephone: 407/894-7555
Fax: 407/897-5963

Title V Air Operation Permit Renewal

PROPOSED Permit No.: 0950113-004-AV

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Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Colleen M. Castille
Secretary

Permittee:

Orange County
Board of County Commissioners
5901 Young Pine Road
Orlando, Florida 32829

PROPOSED Permit No.: 0950113-004-AV

Facility ID No.: 0950113

SIC No(s): 24, 2421

Project: Title V Air Operation Permit Renewal

The purpose of this permit is to renew the Title V Air Operation Permit. This existing facility is located at 5901 Young Pine Road; UTM Coordinates: Zone 17, 481.20 km East and 3150.30 km North; and, Latitude: 28° 28' 52" North and Longitude: 81° 11' 30" West.

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix B, 40 CFR 60, Subpart WWW and 40 CFR 60, Subpart AAAA, Combined General Provisions
Appendix C, 40 CFR 60, Subpart WWW and 40 CFR 63, Subpart AAAA, Combined Standard Conditions
Appendix D-1, Definitions for Subpart WWW – Municipal Solid Waste Landfills
Appendix I-1, List of Insignificant Emissions Units and/or Activities
APPENDIX TV-6, TITLE V CONDITIONS version dated 02/12/02
Table 1, Summary of Monitoring Requirements for Municipal Solid Waste Landfills
Table 2, Summary of Recordkeeping Requirements for Municipal Solid Waste Landfills
Table 3, Summary of Compliance Requirements for Municipal Solid Waste Landfills

Effective Date: TBD

Renewal Application Due Date: August 28, 2011

Expiration Date: February 28, 2012

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

L. T. Kozlov, P.E.
Program Administrator
Air Resources Management


LTK/jr

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Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of an active, Class I municipal solid waste disposal facility (landfill) that has been in operation since 1974. The design capacity of the landfill is greater than 2.5 million megagrams by mass or 2.5 million cubic meters by volume. It is an active asbestos waste disposal site. There is no bioreactor at the landfill. Non-methane organic compound (NMOC) emissions are calculated to be equal to or greater than 50 megagrams per year. Landfill gas emissions are collected and controlled by a flare. This facility is subject to 40 CFR 60 Subparts WWW and A and 40 CFR 63 Subparts AAAA and A.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the Title V Air Operation Permit Renewal application received August 25, 2006, this facility is not a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	Municipal solid waste landfill with candlestick flare

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Appendix A-1: Abbreviations, Acronyms, Citations, and Identification Numbers
Appendix H-1: Permit History

These documents are on file with the permitting authority:

Application for Initial Title V Air Operation Permit received June 14, 1996
Additional information request dated September 17, 1997 and September 29, 1997
Initial Title V Air Operation Permit issued April 15, 1998
Application for a Title V Air Operation Permit Renewal received August 28, 2001
Additional information request dated October 26, 2001
Letter requesting PSD evaluation dated December 3, 2001
Additional information and evaluation received January 23, 2002
Open for Cause Letter dated July 2, 2003
Revision Title V Air Operation Permit issued February 6, 2004.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS, is a part of this permit.

2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320(2), F.A.C.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.

[Rules 62-296.320(4)(b)1. & 4., F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA).

a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 3346
Merrifield, VA 22116-3346
Telephone: 703/816-4434

and,

b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.

[40 CFR 68]

5. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.

[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]

6. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. To comply, procedures to minimize pollutant emissions shall include the following:

a. Tightly cover or close all VOC containers when they are not in use; and

b. Maintain all piping, valves, fittings, etc. in good operation condition, including flares.

[Rule 62-296.320(1)(a), F.A.C.]

7. Emissions of Unconfined Particulate Matter. Pursuant to Rules 62-296.320(4)(c)1., 3. & 4., F.A.C., reasonable precautions to prevent emissions of unconfined particulate matter at this facility include the following requirements (see Condition 57. of APPENDIX TV-6, TITLE V CONDITIONS):

- a. Application of asphalt, water, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities;
- b. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne;
- c. Landscaping or planting of vegetation; and,
- d. Other techniques, as necessary.

[Rules 62-296.320(4)(c)1., 3. & 4., F.A.C.]

8. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.

[Rule 62-213.440, F.A.C.]

9. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C.

[Rules 62-213.440(3) and 62-213.900, F.A.C.]

{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX TV-6, TITLE V CONDITIONS)}

10. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Central District office.

Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
Telephone: 407/894-7555; Fax: 407/897-5963

11. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency, Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303-8960
Telephone: 404/562-9155; Fax: 404/562-9163

{Permitting Note: This condition implements the requirements of Rule 62-210.370(3), F.A.C. (see Condition 51. of APPENDIX TV-6, TITLE V CONDITIONS)}

12. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.

[Rule 62-213.420(4), F.A.C.]

13. At least 180 days prior to the expiration date of this operation permit, the permittee shall submit to this office four copies of the air permit application, DEP Form No. 62-210.900(1).

[Rule 62-4.090, F.A.C.]

14. Annual Operating Report. A DEP Form No. 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" including the Emissions Report, shall be completed for each calendar year on or before March 1 of the following year and submitted to the Department of Environmental Protection's Central District office:

Florida Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803
Telephone: 407/894-7555

{Permitting Note: This condition implements the requirements of Rules 62-210.370(3) F.A.C. (see Condition 24. of APPENDIX TV-6, TITLE V CONDITIONS.)}

Section III. Emissions Unit(s) and Conditions.

Subsection A. This section addresses the following emissions unit(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	Municipal solid waste landfill with a candlestick flare

{Permitting note: This emissions unit is regulated under: NSPS - 40 CFR 60, Subpart A, General Provisions, 40 CFR 60 Subpart WWW; Standards of Performance for Municipal Solid Waste Landfills; NESHAP - 40 CFR Part 63, Subpart A, General Provisions and 40 CFR Part 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills adopted and incorporated by reference in Rule 62-204.800, F.A.C.,}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

A1. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year.
[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

A2. The flare control system shall be designed for and operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours.
[Rule 40 CFR 60.18(c)(1)]

A3. The flare control system shall be operated with a flame present at all times, as determined by a thermocouple or any other equivalent device to detect the presence of a flame.
[40 CFR 60.18(c)(2)]

Test Methods and Procedures

{Permitting note: Table 3, Summary of Compliance Requirements for Municipal Solid Waste Landfills, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A4. The flare must be tested for visible emissions in accordance with EPA Method 22. The observation period is 2 hours and shall be conducted annually.
[40 CFR 60.8]

A5. The permittee shall notify the Central District Office of the Department of Environmental Protection, in writing, at least 15 days prior to the date on which each formal compliance test is to begin. Said notification shall include the date, time and place of each such test, as well as the name of the contact person who will be responsible for coordinating and having such tests conducted for the owner.
[Rule 62-297.310(7)(a)9., F.A.C.]



UTILITIES DEPARTMENT - SOLID WASTE DIVISION

5901 Young Pine Road • Orlando, Florida 32829
407-836-6600 • Fax: 407-836-6629

November 20, 2009

Ms. Caroline Shine
Program Administrator
Air Resource Management
Central District
Florida Department of Environmental Protection
3319 Maguire Boulevard, suite 232
Orlando, FL 32803-3767

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DEP Central Dist.

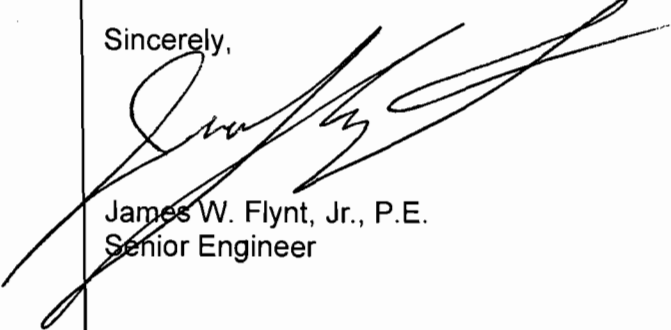
RE: Proof of Publication Intent to Issue
Permit No. 0950113-AC
Orange County Landfill
Major Source Air Construction Permit
Landfill Gas Collection System (Cells 9-12) and a Candlestick Flare

Dear Ms. Shine:

The Public Notice for the Intent to Issue was published in the Orlando Sentinel on November 15, 2009 in accordance with your letter issued on November 10, 2009. Attached is a notarized statement from the Orlando Sentinel stating the information was published.

Please contact me at 407-836-6605 if you have any questions, comments or require additional information.

Sincerely,



James W. Flynt, Jr., P.E.
Senior Engineer

cc: James W. Becker, Manager, Orange County Utilities Solid Waste Division
Larry Gast, Section Manager, Orange County Utilities Solid Waste Division
Dan Morriscal, P.E. Chief Engineer, Orange County Utilities Solid Waste Division
Bo Bruner, P.E., CH2M/WCG The Joint Venture
Ron Beladi, P.E., CH2M/WCG The Joint Venture

Orlando Sentinel

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DEP Central Dist.

Orge County Solid Waste
5901 YOUNG PINE RD
ORLANDO, FL 32829-7428

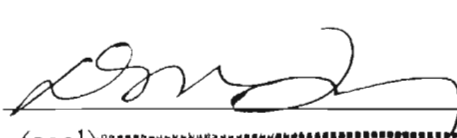
Attn: Chanda Koralishn

Before the undersigned authority personally appeared Rose Riordan / Tammy Vargas / Deborah M. Toney, who on oath says that s/he is the Legal Advertising Representative of Orlando Sentinel, a daily newspaper published in Orange County, Florida; that the attached copy of advertisement, being a Legal Notices in the matter of Project No. 0950113-005-AC in the Orange _ Court, was published in said newspaper in the issue(s); of

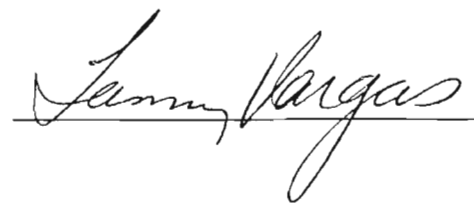
11/15/09

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

The foregoing instrument was acknowledged before me this 15TH day of November, 2009, by Rose Riordan / Tammy Vargas / Deborah M. Toney, who is personally known to me and who did take an oath.



(seal) **DEBORAH M. TONEY**
Comm# DD0482759
Expires 11/18/2009
Florida Notary Assn., Inc.



PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT
Florida Department of Environmental Protection
Air Resource Section, Central District Office
Draft Major Source Air Construction Permit
Project No. 0950113-005-AC
Orange County Board of County Commissioners,
Solid Waste Division
Orange County Solid Waste Management Facility
Orange County, Florida
Applicant: The applicant for this project is Orange County Board of County Commissioners. The applicant's authorized representative and mailing address is: James W. Becker, Manager, Orange County Board of County Commissioners, Solid Waste Division, 5901 Young Pine Road, Orlando, FL 32829.
Facility Location: Orange County Board of County Commissioners operates the existing Orange County Solid Waste Management Facility which is located at 5901 Young Pine Road, Orlando, Orange County, Florida.
Project: The purpose of the construction permit is to construct a Landfill Gas Collection System (Cells 9-12) and a Candlestick Flare. This facility is a source of air emissions.
Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Department of Environmental Protection's Air Resource Section in the Central District Office. The Permitting Authority's physical address is: 3310 Maguire Blvd., Suite 232, Orlando, Florida 32803. The Permitting Authority's mailing address is: 3310 Maguire Blvd., Suite 232, Orlando, Florida 32803. The Permitting Authority's telephone number is 407/894-7555.
Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the physical address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application and information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S.). Interested persons may contact the Permitting Authority's project engineer for additional information at the address and phone number listed above. In ad-

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DEP Central Dist.

for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site: <http://www.dep.state.fl.us/alr/eproducts/aops/default.asp>.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air construction permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of this Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241). Petitions filed by any persons other than those entitled to written notice under section 120.60(3), F.S. must be filed within 14 days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency action or proposed decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so state;
- (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency

of the petitioner's attorney; if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact; if there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and (g) A statement of the relief sought by the petitioner.

stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and, otherwise, shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.

COR1034252 11/15/09

P.E. CERTIFICATION STATEMENT

PERMITTEE

Orange County Solid Waste Division
Orange County Board of County Commissioners
5901 Young Pine Road
Orlando, Florida 32829

Project No. 0950113-005-AC
Orange County Solid Waste Management
Facility
Major Source Air Construction Permit
Landfill Gas Collection System
(Cells 9-12) and a Candlestick Flare
Orange County, Florida

PROJECT DESCRIPTION

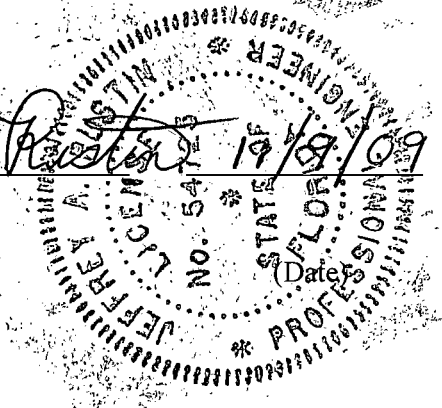
This is an Air Construction Permit for a Major Facility. The Facility consists of an active, Class I municipal solid waste disposal facility. This construction permit will allow for the construction of a 4,0000 SCFM landfill gas (LFG) candlestick open flare (permanent) to combust LFG collected from the Southern Expansion Site (SES), Class I solid waste disposal Cells 9-12, at the OCSWMF. The permit includes the gas collection system (Cells 9-12) which has been constructed. Rules 62-4, 62-210, 62-296, and 62-297, F.A.C. apply. Additionally 40 CFR Part 60, Subparts A, AAAA, and WWW apply.

The Department's full review of the project and rationale for issuing the air permit is provided in the Technical Evaluation.

I HEREBY CERTIFY that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify any other aspects of the proposal (including, but not limited to, the electrical, mechanical, structural, hydrological, geological, and meteorological features).



Jeffrey A. Rustin, P.E.
Registration Number 54725



**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

APPLICANT

Orange County Board of County Commissioners
5901 Young Pine Road
Orlando, FL 32829

Orange County Solid Waste Management Facility
Facility ID No. 0950113

PROJECT

Project No. 0950113-005-AC
Application for Major Source Air Construction Permit
Construct a Landfill Gas Collection System (Cells 9 – 12) and a Candlestick Flare

COUNTY

Orange, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
Central District Office
3319 Maguire Blvd., Suite 232
Orlando, FL 32803

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Facility Description and Location

Orange County Board of County Commissioners operates the Orange County Solid Waste Management Facility. The facility is categorized under Standard Industrial Classification Code No. 49. The facility is located in Orange County at 5901 Young Pine Road, Orlando, Florida. The UTM coordinates of the existing facility are Zone 17, 481.20 km East, and 3150.30 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description

The purpose of the construction permit is to allow construction of a landfill gas collection system and a candlestick flare to capture and control landfill gas emission from Southern Expansion Site, cells 9 – 12.

Processing Schedule

08/28/09	Received the application for a major source air pollution construction permit.
09/16/09	Requested additional information.
10/11/09	Received additional information.
10/27/09	Requested additional information.
11/04/09	Received additional information; application complete.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_x); sulfur dioxide (SO₂); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM₁₀); volatile organic compounds (VOC); lead (Pb); fluorides (F1); sulfuric acid mist (SAM); hydrogen sulfide (H₂S); total reduced sulfur (TRS), including H₂S; reduced sulfur compounds, including H₂S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO₂ and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 µg/m³, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

The existing permitted facility both prior to and after the expansion provided for by this construction permit has potential emissions less than the PSD major stationary source threshold of 250 tons/yr. of any regulated air pollutant. Therefore, the existing permitted facility is not *major* for PSD and is not *subject* to PSD. The “significant emissions rates” are not applicable until *after* the facility has permitted potential emissions above the PSD major stationary source threshold. When facility potential emissions exceed 250 tons/yr. for any regulated air pollutant future increases in potential emissions will be subject to PSD preconstruction review if “significant emission rates” are exceeded.

Currently permitted facility wide potential emissions for CO are 73.6 tons/yr. The expansion allowed by this construction permit allows additional potential emissions of CO of 167.0 tons/yr. for a total of 240.6 tons/yr. Note that CO is the facility pollutant with the highest potential emission rate.

3. APPLICATION REVIEW

Discussion of Emissions

Currently permitted facility wide potential emissions for CO are 73.6 tons/yr. The expansion allowed by this construction permit allows additional potential emissions of CO of 167.0 tons/yr. for a total of 240.6 tons/yr. Note that CO is the pollutant with the highest potential emission rate.

State Requirements

Rule 62-210.200(242), F.A.C. (potential to emit), Rule 62-210.300(1), F.A.C. (air construction permits), and Rule 62-296.320(4)(b), F.A.C. (general visible emission standard).

Federal NSPS Provisions

The landfill gas collection system and candlestick flare are subject to 40 CFR 60, Subpart WWW.

Federal NESHAP Provisions

The landfill gas collection system and candlestick flare are subject to 40 CFR 63, Subpart AAAA.

Other Draft Permit Requirements

N/A

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. John Turner is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Florida Department of Environmental Protection, 3319 Maguire Blvd., Suite 232, Orlando, FL 32803; 407-894-7555.



The Joint Venture

2301 Lucien Way • Suite 300 • Maitland, Florida 32751 • (407) 647-6623 FAX (407) 539-0575

November 4, 2009

Ms. Caroline Shine
 Air Resource Management
 Florida Department of Environmental Protection
 Central District Office
 3329 Maguire Boulevard
 Orlando, Florida 32803-3767

RECEIVED
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 DEP Central Dist

Subject: Responses to FDEP Request for Additional Information (RAI Response)
FDEP File No. 0950113-005-AC
FDEP Application for Title-V Air Construction Permit
Cells 9-12 Southern Expansion Site
Orange County Solid Waste Management Facility ("OCSWMF")

Dear Ms. Shine:

On behalf of Orange County Utilities (OCU) Solid Waste Division, we hereby provide the responses to the above referenced request for additional information dated October 27, 2009 regarding the Air Construction permit application for the Cell 9-12 permanent landfill gas (LFG) Blower and Flare System.

The RAI Response is formatted in the same order as received from the Department and the comments are repeated for ease of reference.

Comment 1- Regarding the existing air permitted landfill operation, submit the potential emissions based on continuous use of the flare as currently permitted.

Response: The estimated emissions from the existing air permitted landfill operations were previously submitted to the Department as part of the 2008 Annual Air Operations Report. The 2010 potential emissions from all existing landfill operations plus the potential emissions for continuous use of the new proposed flare is calculated and included as **Attachment A**.

Comment 2- Regarding this specific expansion project, the additional information, dated 10/9/09, indicates a significant increase in potential emissions of CO based on the John Zink emission factor and assumes 8,760 hours per year of flare operation. Submit information that clarifies the date the landfill gas pipeline to the OUC power plant is expected to be completed.

Response: The LFG treatment plant and pipeline to transmit the LFG to OUC pipeline is currently under design. We anticipate submitting the solid waste permit application for construction of the LFG pipeline prior to the end of this year. The proposed flare and blower are scheduled to be constructed and operational prior to January 24, 2010 in order for the OCSWMF to meet the requirements of Part WWW 40 CFR 60, and specifically §60.752(b)(2)(ii)(a)1 requiring a control system in place five (5) years after initial placement of solid waste.

Comment 3- Regarding the existing air permitted landfill operation, submit the potential emissions, based on use of the flare as a backup and routing of landfill gas to the OUC power plant. Clarify whether you would like a permit restriction on annual hours of operation of the flare to equate to these reduced potential emissions.

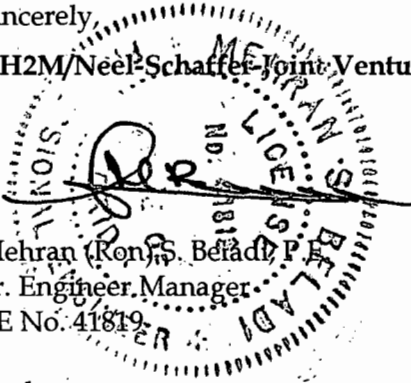
Ms. Caroline Shine
FDEP Central District- Air Resource Management
OCSWMF Operations Permit- RAI Response
11/04/2009
Page 2 of 2

Response: As demonstrated in Attachment A, the potential emissions for all operations of the landfill as permitted plus the potential emissions from the 4000 scfm proposed flare will exceed the 250 tpy limitation for CO requiring PSD reviews. Since the LFG treatment plant and pipeline are not in place and are not anticipated to be in place by January 2010, the proposed flare would need to be permitted to operate full time. However, the LFG generation from Cells 9-10 at this time is much less than the 4000 scfm capacity of the flare. Therefore, it is requested the capacity of the proposed flare be restricted to maximum of 3400 scfm at this time. The calculations for potential emissions for all operations of the landfill plus the potential emissions from the proposed flare at 3400 scfm maximum flow is included as **Attachment B**. Once the LFG treatment plant and pipeline are in place, the proposed flare would be used as a back-up and the operations would be limited. The limitation for the annual hours of operation of the existing and proposed flares will be addressed as part of the Title V Air Operation Permit Application.

If you have any questions or need additional information, please advise.

Sincerely,

CH2M/Neel-Schaffer Joint Venture



Mehran (Ron) S. Befadi, P.E.
Sr. Engineer, Manager
PE No. 41819

Enclosures

Distribution to:

- Mr. James W. Becker, Manager, OCSWD
- Mr. Dan Morrival, P.E., Chief Solid Waste Engineer, OCSWD
- Mr. James Flynt, P.E. Sr. Solid Waste Engineer, OCSWD
- Mr. Bo. Bruner, P.E., CH2M/Neel-Schaffer- Joint Venture
- Mr. Sam Griffin, Manager-Project Development & Support- OUC

ATTACHMENT A

Year 2010 Results From Landgem Model using same parameters as August 2006 air operations permit application

	SCFM/min (avg)	Annual SCFM	Annual cubic meters
Total Landfill Gas	7025.60324	3,692,657,063	104,644,750
Methane	3583.057652	1,863,255,102	53,368,823
Carbon dioxide	3442.545588	1,809,401,961	51,275,928
NMOC (161 ppmv)	1.131122122	594,518	16,848

2008 Allocation of Capture and Control (from 2008 annual air operations report) using operating records

Landfill Unit	Landfill Unit LFG Flows	%of total flow	Assumed % capture	Captured Flow
Cell 7B/8 and AK LFG	1,488,674,147 CF	0.45	70.00%	0.3138
Cell 9, 10, 11 and 12	1,433,631,744 CF	0.43	70.00%	0.3022
Pre 1985 and Class III	398,262,717 CF	0.12	70.00%	0.0840
Total gas flow	3,320,568,608 CF			0.3000
Gas collected (2008) prior to Cell 7B/8 closure	0.695	Uncaptured Flow		

Operational Year 2010 Allocation of Capture and Control Adjust for Collected LFG (Totals from Landgem Model)

Landfill Unit	Landfill Unit LFG Flows	Captured Flow	Assumed % capture	Captured Flow
Cell 7B/8 and AK LFG	1,855,488,488 CF	90% of LFG flow	40.35% Q total	0.448319045
Cell 9, 10, 11 and 12	1,594,278,273 CF	70% of LFG flow	30.22% Q total	0.431742847
Pre 1985 and Class III	442,890,302 CF	70% of LFG flow	8.40% Q total	0.119938108
Total Predicted Gas Flow for 2010 (Landgem)	3,692,657,063 CF	Captured Flow	78.97% Q total	
Gas collected after Cell 7B Final Closure		Uncaptured Flow	21.03% Q total	

Landfill Unit	Landfill Unit LFG Flows	CH4 flows	TOTALS FROM LANDGEM
Cell 7B/8 and AK LFG	46,878,495 Cubic meters	23,908,032	35.3145 Ft ³ /m ³
Cell 9, 10, 11 and 12	45,145,204 Cubic meters	23,024,054	
Pre 1985 and Class III	12,541,332 Cubic meters	6,396,079	
Total Predicted Gas Flow for 2010 (Landgem)	104,565,031 Cubic meters	53,328,166	
Gas collected after Cell 7B Final Closure	82,571,221 Cubic Meters collected		

Analysis Performed for Year 2010 LFG Generation And 4000 SCFM Cell 9-12 Flare

161 ppmv as hexanes for Cell 9, Cell 10, Cell 11 and Cell 12 NMOC Concentration			
1	Calculation of NMOC landfill emissions-Cell 7B/8 & Cell A-K QCH4=0.51 X QLFG X cubic meter / 35.21 cubic feet= Cp for Cell A-K&7B/8 Qnmoc=1.82*QCH4*Cp(1000,000)= Mnmoc=Qnmoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc(produced)=	QLFG= 23,908,032.35 cubic meters NMOC concentration= 161 ppmv 7,005.53 cubic meters NMOC /year 3140 CFM 23503.03 kg/yr 23.50 Megagrams/Year	46,878,494.81 m3/yr
2	Calculation of Collected LFG=QLFG*0.90 Calculation of fugitive LFG=QLFG*0.10	QLFG collected = QLFG fugitive=	42,190,645.33 m3/yr 4,687,849.48 m3/yr
3	Calculation of NMOC landfill emissions-Cell 9, Cell 10, Cell 11, Cell 12 QCH4=0.51*QLFG X cubic meter / 35.21 cubic feet= Cp for Cell 9,10,11 & 12 Qnmoc=1.82*QCH4*Cp(1000,000)= Mnmoc=Qnmoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc(produced)=	Qlf: QLFG= 43,503,225.54 cubic meters NMOC concentration=161 ppmv 12,747.32 cubic meters NMOC /year 42766.28 kg/yr 42.77 Megagrams/Year	5713 SCFM 85,300,442.23 m3/yr
4	Calculation of Collected LFG=QLFG*0.70 Calculation of fugitive LFG=QLFG*0.30	QLFG collected = QLFG fugitive=	59,710,309.56 m3/yr 25,590,132.67 m3/yr
5	Calculation of NMOC landfill emissions-Pre 1985 and Class III QCH4=0.51 X QLFG X cubic meter / 35.21 cubic feet= Cp for Pre1985 and Class III Qnmoc=1.82*Qch4*Cp(1000,000)= Mnmoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc(produced)=	QLFG= 6,396,079.32 cubic meters. NMOC concentration=161 ppmv 1,674.18 cubic meters NMOC /year 6287.73 kg/yr 6.29 Megagrams/Year	12,541,332.00 m3/yr
6	Calculation of Collected LFG=Qlf*0.70 Calculation of fugitive LFG=Qlf*0.30	QLFG collected = QLFG fugitive=	8,778,932.40 m3/yr 3,762,399.60 m3/yr
7	Calc. of NMOC Emitted Fugitive Emissions Cells 9-12 Cells A-K, 7B/8 Pre 1985 cells & CI III NMOC Emitted Fugitive Emissions	12.83 Megagrams NMOC, 30 percent fugitive L 2.35 Megagrams NMOC, 10 percent fugitive L 1.83 Megagrams NMOC, 30 percent fugitive L 17.07 Megagrams NMOC/Year* 161 ppmv	Tons/year 14.14 2.59 2.08 18.82

8	<p>Calc of NMOC Flared Cells 9-12 4000 SCFM 2.20 MG NMOC/Yr Flare Emission@ Cells A-K, 7B/8 0.42 MG NMOC/Yr 98 percent destruction Pre 1985 cells& CI III 0.09 MG NMOC/Yr</p> <p>Total NMOC emitted-Flares 2.71 MG NMOC/Yr TOTAL ANNUAL NMOC EMISSIONS 19.78 Megagrams NMOC/Year TOTAL ANNUAL NMOC EMISSIONS 21.80 tons/year</p>	<p>600 ppmv-Cell 9-12 Tons/ year 365 days operation 2.43 365 days operation 0.47 365 days Flared 0.10</p>																											
<table border="1"> <tbody> <tr> <td colspan="3">Check against tier 1 default for Cell 9-12</td> </tr> <tr> <td>Cell 9-12 fugitive emissions @ 600 ppmv</td> <td></td> <td>47.21 Megagrams</td> </tr> <tr> <td>Class III and Pre 1985</td> <td></td> <td>8.65</td> </tr> <tr> <td>Cell A-K & 7B</td> <td></td> <td>2.35</td> </tr> <tr> <td>Fugitive Emissions</td> <td></td> <td>58.21 Megagrams</td> </tr> <tr> <td>Controlled emissions</td> <td>Cells 9-12 at 600ppmv</td> <td>8.11 365 days operation</td> </tr> <tr> <td></td> <td>Cells A-K, 7B/8</td> <td>0.42 365 days operation</td> </tr> <tr> <td></td> <td>Pre 1985 cells& CI III</td> <td>0.09 365 days Flared</td> </tr> <tr> <td>Total- Tier 1 emissions</td> <td></td> <td>66.83 Megagrams/year</td> </tr> </tbody> </table>			Check against tier 1 default for Cell 9-12			Cell 9-12 fugitive emissions @ 600 ppmv		47.21 Megagrams	Class III and Pre 1985		8.65	Cell A-K & 7B		2.35	Fugitive Emissions		58.21 Megagrams	Controlled emissions	Cells 9-12 at 600ppmv	8.11 365 days operation		Cells A-K, 7B/8	0.42 365 days operation		Pre 1985 cells& CI III	0.09 365 days Flared	Total- Tier 1 emissions		66.83 Megagrams/year
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Total- Tier 1 emissions		66.83 Megagrams/year																											
9	<p>Calculate VOC fugitive emissions-Cell 7B/8 and Cell A-K VOC concentration =0.39* Conc NMOC VOC concentration= NMOC concentration= 161 ppmv Fugitive Gas Emissions= Qvoc = 294.35 m3/year Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Umvoc= 987.52 kg/yr 1.09 tons/ year 5.98 lb/day</p>																												
10	<p>Calculate VOC fugitive emissions-Cell 9, Cell 10, Cell 11, Cell 12 VOC concentration =0.39* Conc NMOC VOC concentration= NMOC concentration=161 ppmv Fugitive Gas Emissions= Qvoc = 5,938.19 m3/year Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Umvoc= 19922.18 kg/yr 22.01 tons/ year 120.62 lb/day</p>																												
11	<p>Calculate VOC fugitive emissions-Pre 1985 Cells and Class III VOC concentration =0.39* Conc NMOC VOC concentration= NMOC concentration= 161 ppmv Fugitive Gas Emissions= Qvoc = 236.24 m3/year Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Umvoc= 792.67 kg/yr 0.88 tons/ year 4.80 lb/day</p>																												
<p>VOC Fugitive emissions 131.40 lb/day 23.98 T/yr</p>																													
<p><u>Calculate Controlled VOC Emissions from Flare Stations</u></p>																													
12	<p>Calculate Flare emissions for Cell A-K, and Cell 7B/8 Assume 98 percent VOC destruction, 2 percent VOC emissions VOC concentration= 62.79 ppmv Flare Gas Emissions= Qvoc= 2,649.15 m3/year Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Cmvoc total @100,00 % 8887.70 kg/yr 9.82 tons/ year 53.81 lb/day</p> <p>Assume 98 % destruction Cmoc, 98 % destruction 1.08 lb/day 365 day operation 392.84 lb</p>																												
13	<p>Calculate Flare emissions for Cells 9,10,11 and 12 Assume 98 percent VOC destruction, 2 percent VOC emissions VOC concentration= 232.05 ppmv Flare Gas Emissions= Qvoc= 13,855.78 m3/year Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Cmvoc total @100,00 % 46485.09 kg/yr 51.37 tons/ year 281.46 lb/day</p> <p>Assume 98 % destruction Cmoc, 98 % destruction 5.63 lb/day 365 day operation 2,054.64 lb 1.03 tons</p>																												
14	<p>Calculate flare Emissions for Pre 1985 Cells and Class III Assume 98 percent VOC destruction, 2 percent VOC emissions VOC concentration= 62.79 ppmv Flare Gas Emissions= Qvoc= 551.23 m3/year Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Cmvoc total @100,00 % 1849.33 kg/yr 2.04 tons/ year 11.20 lb/day</p> <p>Assume 98 % destruction Cmoc, 98 % destruction 0.22 lb/day 365 day operation 81.74 lb</p>																												
<p>VOC controlled emissions 2,529.22 1.26 T/yr</p>																													

15 Calculation of VOC mass
 Total Mass Emission 25.25 25.25 T/yr

16 Calculation of Carbon Monoxide Emissions- Year 2010

Total CO produced- All landfill units	25.96 MG/Year	From Landgem scaled up
Total LFG Flow	144,720,289.04 m3/year	104,565,031
Cell 7B/8 and A-K LFG Flow	46,875,494.81 m3/year	1.364021673 factor
Cell 9, 10, 11 and 12	85,300,442.25 m3/year	21.40 landgem
Pre 1985 and Class III	12,541,332.00 m3/year	25.96

CO mass allocated by LFG Flow		
Cell 7B/8 and A-K LFG	8,409.09 kg/yr	
Cell 9, 10, 11 and 12	15,301.24 kg/yr	
Pre 1985 and Class III	2,249.67 kg/yr	

Calculate Fugitive Emissions

Cell 7B/8 and A-K LFG	10% fugitive emissions	840.91 kg/yr	
Cell 9, 10, 11 and 12	30% fugitive emissions	4,590.37 kg/yr	
Pre 1985 and Class III	30% fugitive emissions	674.90 kg/yr	
Total Fugitive emissions		6,106.18 Kg/yr CO	13,458.03 lb/yr
Total Fugitive emissions CO		6.73 tons/ yr	
Total Fugitive emissions CO		36.87 lb/day	6.73 T/yr

17 Calculate flare emissions CO

	LFG Collected	Heat Value	Emission factor	Annual Flow to Flare, CF
Cell 7B/8 and AK LFG	90% of LFG flow	519 BTU/CF	0.15lb CO/ MMBtu	1,485,532,622.11
Cell 9, 10, 11 and 12	70% of LFG flow	505 BTU/CF	0.37lb CO/ MMBtu	2,102,400,000.00 4000SCFM
Pre 1985 and Class III	70% of LFG flow	493 BTU/CF	0.15lb CO/ MMBtu	309,106,209.73

FLARE EMISSION	$Cmco=(0.15lb\ CO/MMBtu)*SCF/YR\ LFG)*\ BTU/SCF*1MMBtu/1,000,000\ Btu$		tons/year
Cell 7B and A_K	$Cmco=$	115,648.71 lb/yr	365 days 57.82
Cell 9, 10, 11 and 12	$Cmco=$	392,833.44 lb/yr	365 days 196.42
Pre 1985 and Class III	$Cmco=$	19,612.79 lb/yr	365 days 9.81
Total Created by combustion		528,094.94 lb/yr	Total 264.05
		1448.84 lb/day	

Total Emissions
 Annual PSD Emission Limit
 Emissions allowed from Cell 9-12 & Cell 7B/8 & A-K, Pre 1985 and Class III plus fugitive 250 tons

18 Calculate flare emissions NOX

	No Fugitive emissions	Emission factor	Annual Flow to Flare, CF
Cell 7B/8 and AK LFG	90% of LFG flow	519 BTU/CF	0.06lb NOX/ MMBtu 1,485,532,622.11
Cell 9, 10, 11 and 12	70% of LFG flow	505 BTU/CF	0.06lb NOX/ MMBtu 2,102,400,000.00
Pre 1985 and Class III	70% of LFG flow	493 BTU/CF	0.06lb NOX/ MMBtu 309,106,209.73

FLARE EMISSION	$Cmco=(0.06lb\ NOX/MMBtu)*SCF/YR\ LFG)*\ BTU/SCF*1MMBtu/1,000,000\ Btu$		tons/year
Cell 7B and A_K	$Cmco=$	52,427.42 lb NOX/yr	365 days 26.21
Cell 9, 10, 11 and 12	$Cmco=$	70,480.86 lb NOX/yr	365 days 35.24
Pre 1985 and Class III	$Cmco=$	10,362.48 lb NOX/yr	365 days 5.18
Total Created by combustion		133,270.75 lb NOX/yr	Total 66.64
		365.13 lb NOX/day	

19 Calculate SOx emissions

Using AP-42 default equations
 $Qs = 1.82 Qch4 * Cs / 1,000,000$ $Cs = 46.9\ ppmv\ from\ Ap-42\ Section\ 2.4$
 $UM = Qs * ((32g/gmole * 1\ ATM) / ((8.205E-05m3-ATM/gmole * K * 1000g/kg * 313K)))$ $Cs = 200ppmv\ trs\ site\ specific$

Calculate Qs for each grouped landfill unit

Cell 7B/8 and AK LFG	23,908,032.35 m3	Qs=	2,040.74 m3/year
Cell 9, 10, 11 and 12	43,503,225.54 m3	Qs=	15,835.17 m3/year
Pre 1985 and Class III	6,396,079.32 m3	Qs=	545.96 m3/year

Adjust for Collected Methane

Cell 7B/8 and AK LFG	90% of CH4 flow	Qs=	1,836.67 m3/year
Cell 9, 10, 11 and 12	70% of CH4 flow	Qs=	11,084.62 m3/year
Pre 1985 and Class III	70% of CH4 flow	Qs=	382.17 m3/year

Calculate Controlled Sulfur Emissions

Cell 7B/8 and AK LFG	1,836.67 UMs=	2,289.83 kg S/yr
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Cell 9, 10, 11 and 12	11,084.62 UMs=	13,820.15 kg S/yr
Pre 1985 and Class III	382.17 UMs=	476.48 kg S/yr
Total		16,586.56 kg S/yr
		36,556.78 lb/year
Adjust for Molecular weight of Sox to sulfur (factor of 2.0)		
Total SOx emissions=Ums X 2	Total Sox	73,113.56 lb/year
	Total SOx	36.56 tons/year
Calculate emissions for flare operating period.		
SOX emission from flare Cell 7B/8	365 days/ year	2.52
SOX emission from flare cell 9	365 days per year	15.23
SOX emission from flare Class III	365 days / year	0.53
Total		18.28 tons/ year

20	Particulate Matter (PM10)	Flare Oper. Time	Cell	CH4 Flow, ft3/ min	PM10.lb
	Calculate PM10 emissions for each unit	365 days	Cell 7B/8 and A-K	1121.12	5,264.07
	CM=(1.0E-3 Lb/hr-ft3/min Ch4)* 0.536*(CFM)*time	365 days @0.0017	Cell 9-12	2040.00	16,283.51
		365 days	Pre 1985 and Class	321.36	1,508.85
				Total lb/year	23,066.45
	50 TPY			Total tons/year	11.53

ATTACHMENT B

CELL 9-12 PROPOSED FLARE LIMITED TO LFG FLOW OF 3400 SCFM.

Year 2010 Results From Landgem Model using same parameters as August 2006 air operations permit application

	SCFM/min (avg)	Annual SCFM	Annual cubic meters
Total Landfill Gas	7025.60324	3,692,657,063	104,644,750
Methane	3583.057652	1,893,255,102	53,368,823
Carbon dioxide	3442.545588	1,809,401,961	51,275,928
NMOC (161 ppmv)	1.131122122	594,518	16,848

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Landfill Unit	Landfill Unit LFG Flows	% of total flow	Assumed % capture	Captured Flow
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Cell 9, 10, 11 and 12	1,433,631,744 CF	0.43	70.00%	0.3022
Pre 1985 and Class III	398,262,717 CF	0.12	70.00%	0.0840
Total gas flow	3,320,568,608 CF			0.3000
Gas collected (2008) prior to Cell 7B/8 closure	0.696		Uncaptured Flow	

Operational Year 2010 Allocation of Capture and Control Adjust for Collected LFG (Totals from Landgem Model)

Landfill Unit	Landfill Unit LFG Flows	Captured Flow		
Cell 7B/8 and AK LFG	1,655,488,488 CF	90% of LFG flow	40.35% Q total	0.448319045
Cell 9, 10, 11 and 12	1,594,278,273 CF	70% of LFG flow	30.22% Q total	0.431742847
Pre 1985 and Class III	442,890,302 CF	70% of LFG flow	8.40% Q total	0.119938108
Total Predicted Gas Flow for 2010 (Landgem)	3,692,657,063 CF	Captured Flow	78.97% Q total	
Gas collected after Cell 7B Final Closure		Uncaptured Flow	21.03% Q total	

Landfill Unit	Landfill Unit LFG Flows	CH4 flows	TOTALS FROM LANDGEM
Cell 7B/8 and AK LFG	46,878,495 Cubic meters	23,908,032	35,3145 F3/ m3
Cell 9, 10, 11 and 12	45,145,204 Cubic meters	23,024,054	
Pre 1985 and Class III	12,541,332 Cubic meters	6,396,079	
Total Predicted Gas Flow for 2010 (Landgem)	104,565,031 Cubic meters	53,328,166	
Gas collected after Cell 7B Final Closure	82,571,221 Cubic Meters collected		

Analysis Performed for Year 2010 LFG Generation And 4000 SCFM Cell 9-12 Flare

161 ppmv as hexane for Cell 9, Cell 10, Cell 11 and Cell 12 NMOC Concentration			
1	Calculation of NMOC landfill emissions-Cell 7B/8 & Cell A-K QCH4=0.51 X QLFG X cubic meter / 35.21 cubic feet= Cp for Cell A-K&7B/8 Qnmoc=1.82*QCH4*Cp(1000,000)= Mnmoc=Qnmoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc= 23503.03 kg/yr Mnmoc(produced)= 23.50 Megagrams/Year	QLFG= 23,908,032.35 cubic meters NMOC concentration= 161 ppmv 7,005.53 cubic meters NMOC /year 3140 CFM	46,878,494.81 m3/yr
2	Calculation of Collected LFG=QLFG*0.90 Calculation of fugitive LFG=QLFG*0.10	QLFG collected = QLFG fugitive=	42,190,645.33 m3/yr 4,687,849.48 m3/yr
3	Calculation of NMOC landfill emissions-Cell 9, Cell 10, Cell 11, Cell 12 QCH4=0.51*QLFG X cubic meter / 35.21 cubic feet= Cp for Cell 9,10,11 &12 Qnmoc=1.82*QCH4*Cp(1000,000)= Mnmoc=Qnmoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc= 36350.27 kg/yr Mnmoc(produced)= 36.35 Megagrams/Year	Qlfg= QLFG= 36,976,653.93 cubic meters NMOC concentration=161 ppmv 10,834.90 cubic meters NMOC /year MG/year	72,503,243.00 m3/yr
4	Calculation of Collected LFG=QLFG*0.70 Calculation of fugitive LFG=QLFG*0.30	QLFG collected = QLFG fugitive=	50,752,270.10 m3/yr 21,750,972.90 m3/yr
5	Calculation of NMOC landfill emissions-Pre 1985 and Class III QCH4=0.51 X QLFG X cubic meter / 35.21 cubic feet= Cp for Pre1985 and Class III Qnmoc=1.82*Qch4*Cp(1000,000)= Mnmoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc= 6287.73 kg/yr Mnmoc(produced)= 6.29 Megagrams/Year	QLFG= 6,396,079.32 cubic meters. NMOC concentration=161 ppmv 1,874.18 cubic meters NMOC /year 840 SCFM	12,541,332.00 m3/yr
6	Calculation of Collected LFG=Qlfg*0.70 Calculation of fugitive LFG=Qlfg*0.30	QLFG collected = QLFG fugitive=	8,778,932.40 m3/yr 3,762,399.60 m3/yr
7	Calc. of NMOC Emitted Fugitive Emissions Cells 9-12 Cells A-K, 7B/8 Pre 1985 cells & CI III NMOC Emitted Fugitive Emissions	10.91 Megagrams NMOC/ 30 percent fugitive Lf 2.35 Megagrams NMOC/ 10 percent fugitive Lf 1.89 Megagrams NMOC/ 30 percent fugitive Lf 15.14 Megagrams NMOC/Year* 161 ppmv	12.02 2.59 2.08 16.69

8	Calc of NMOC Flared Flare Emission@ 98 percent destruction	Cells 9-12 4000 SCFM Cells A-K, 7B/8 Pre 1985 cells & Cl III	1.87 MG NMOC/Yr 0.42 MG NMOC/Yr 0.09 MG NMOC/Yr	600 ppmv-Cell 9-12 365 days operation 365 days operation 365 days Flared	Tons/year 2.06 0.47 0.10																																																						
	Total NMOC emitted-Flares TOTAL ANNUAL NMOC EMISSIONS TOTAL ANNUAL NMOC EMISSIONS		2.38 MG NMOC/Yr 17.53 Megagrams NMOC/Year 19.31 tons/year		19.31 tons																																																						
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9	Calculate VOC fugitive emissions-Cell 7B/8 and Cell A-K VOC concentration =0.39* Conc NMOC Fugitive Gas Emissions= Qvoc = Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))		NMOC concentration= 161 ppmv VOC concentration= 62.79 ppmv 294.35 m3/year																																																								
			987.52 kg/yr 1.09 tons/ year 5.98 lb/day																																																								
10	Calculate VOC fugitive emissions-Cell 9, Cell 10, Cell 11, Cell 12 VOC concentration =0.39* Conc NMOC Fugitive Gas Emissions= Qvoc = Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))		NMOC concentration=161 ppmv VOC concentration= 232.05 ppmv 5,047.31 m3/year																																																								
			16933.36 kg/yr 18.71 tons/ year 102.53 lb/day																																																								
11	Calculate VOC fugitive emissions-Pre 1985 Cells and Class III VOC concentration =0.39* Conc NMOC Fugitive Gas Emissions= Qvoc = Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))		NMOC concentration= 161 ppmv VOC concentration= 62.79 ppmv 236.24 m3/year																																																								
			792.57 kg/yr 0.88 tons/ year 4.80 lb/day																																																								
	VOC Fugitive emissions		113.31 lb/day		20.65 T/yr																																																						
	<u>Calculate Controlled VOC Emissions from Flare Stations.</u>																																																										
12	Calculate Flare emissions for Cell A-K, and Cell 7B/8 Assume 98 percent VOC destruction, 2 percent VOC emissions Flare Gas Emissions= Qvoc = Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Cmvoc total @100,00 %		VOC concentration= 62.79 ppmv 2,649.15 m3/year																																																								
			8887.70 kg/yr 9.82 tons/ year 53.81 lb/day																																																								
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13	Calculate Flare emissions for Cells 9,10,11 and 12 Assume 98 percent VOC destruction, 2 percent VOC emissions Flare Gas Emissions= Qvoc = Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Cmvoc total @100,00 %		VOC concentration= 232.05 ppmv 11,777.06 m3/year																																																								
			39511.16 kg/yr 43.66 tons/ year 239.23 lb/day																																																								
	Assume 98 % destruction Cmoc, 98 % destruction		4.78 lb/day	365 day operation	1,748.39 lb 0.87 tons																																																						
14	Calculate flare Emissions for Pre 1985 Cells and Class III Assume 98 percent VOC destruction, 2 percent VOC emissions Flare Gas Emissions= Qvoc = Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Cmvoc total @100,00 %		VOC concentration= 62.79 ppmv 551.23 m3/year																																																								
			1849.33 kg/yr 2.04 tons/ year 11.20 lb/day																																																								
	Assume 98 % destruction Cmoc, 98 % destruction		0.22 lb/day	365 day operation	81.74 lb																																																						
	VOC controlled emissions		2,220.97		1.11 T/yr																																																						

15

Calculation of VOC mass
Total Mass Emission

114.42 lb/day

20.88 T/yr

16

Calculation of Carbon Monoxide Emissions- Year 2010

Total CO produced- All landfill units	25.96 MG/Year	From Landgem scaled up
Total LFG Flow	131,923,069.81 m3/year	104,565,031
Cell 7B/8 and A-K LFG Flow	46,878,494.81 m3/year	1.261636597 factor
Cell 9,10, 11 and 12	63,975,331.67 m3/year	21.40 landgem
Pre 1985 and Class III	12,641,332.00 m3/year	23.67
CO mass allocated by LFG Flow		
Cell 7B/8 and A-K LFG	9,224.81 kg/yr	
Cell 9,10, 11 and 12	12,589.15 kg/yr	
Pre 1985 and Class III	2,467.90 kg/yr	
Calculate Fugitive Emissions		
Cell 7B/8 and A-K LFG 10% fugitive emissions	922.48 kg/yr	
Cell 9,10, 11 and 12 30% fugitive emissions	3,776.75 kg/yr	
Pre 1985 and Class III 30% fugitive emissions	740.37 kg/yr	
Total Fugitive emissions	5,439.60 Kg/yr CO	11,988.87 lb/yr
Total Fugitive emissions CO	5.89 tons/yr	
Total Fugitive emissions CO	32.85 lb/day	5.99 T/yr

17

Calculate flare emissions CO

	LFG Collected	Heat Value	Emission factor	Annual Flow to Flare, CF	
Cell 7B/8 and AK LFG	90% of LFG flow	519 BTU/CF	0.15lb CO/ MMBtu	1,485,532,622.11	
Cell 9, 10, 11 and 12	70% of LFG flow	505 BTU/CF	0.37lb CO/ MMBtu	1,786,987,430.22	3400 cfm
Pre 1985 and Class III	70% of LFG flow	493 BTU/CF	0.15lb CO/ MMBtu	309,106,209.73	
FLARE EMISSION $Cmco=(0.15lb\ CO/MMBtu)*SCF/YR\ LFG)*\ BTU/SCF*1MMBtu/1,000,000\ Btu$ tons/year					
Cell 7B and A_K	$Cmco=$	115,848.71 lb/yr		365 days	57.82
Cell 9, 10, 11 and 12	$Cmco=$	333,898.60 lb/yr		365 days	166.95
Pre 1985 and Class III	$Cmco=$	19,612.79 lb/yr		365 days	9.81
Total Created by combustion		469,160.10 lb/yr		Total	234.58
		1285.37 lb/day			
Total Emissions					
Annual PSD Emission Limit					
Emissions allowed from Cell 9-12 & Cell 7B/8 & A-K, Pre 1985 and Class III plus fugitive					
					250 tons

18

Calculate flare emissions NOX

No Fugitive emissions

Emission factor

				Annual Flow to Flare, CF	
Cell 7B/8 and AK LFG	90% of LFG flow	519 BTU/CF	0.06lb NOX/ MMBtu	1,485,532,622.11	
Cell 9, 10, 11 and 12	70% of LFG flow	505 BTU/CF	0.06lb NOX/ MMBtu	1,786,987,430.22	
Pre 1985 and Class III	70% of LFG flow	493 BTU/CF	0.06lb NOX/ MMBtu	309,106,209.73	
					3,581,626,262.06
FLARE EMISSION $Cmco=(0.068\ lbs\ CO/MMBtu)*SCF/YR\ LFG)*\ BTU/SCF*1MMBtu/1,000,000\ Btu$ tons/year					
Cell 7B and A_K	$Cmco=$	52,427.42 lb NOX/yr		365 days	26.21
Cell 9, 10, 11 and 12	$Cmco=$	59,906.97 lb NOX/yr		365 days	29.95
Pre 1985 and Class III	$Cmco=$	10,362.48 lb NOX/yr		365 days	5.18
Total Created by combustion		122,696.86 lb NOX/yr		Total	61.35
		336.16 lb NOX/day			

Calculate SOx emissions

No Fugitive emissions

Using AP-42 default equations

$Q_s = 1.82 Q_{ch4} \cdot C_s / 1,000,000$

$C_s = 46.9$ ppmv from Ap-42 Section 2.4

$UM = Q_s \cdot ((32g/gmole \cdot 1 \text{ ATM}) / (8.205E-05 m^3-ATM/gmole \cdot K \cdot 1000g/kg \cdot 313K))$

$C_s = 200$ ppmv trs

Site specific for Cell 9-12

$C_s = 46.9$ ppmv trs

Default for Cell 7B/8 A-K & CI III

Calculate Q_s for each grouped landfill unit

	Q_s		Q_s
Cell 7B/8 and AK LFG	23,908,032.35 m3	Q_s	2,040.74 m3/year
Cell 9, 10, 11 and 12	36,976,653.93 m3	Q_s	13,459.50 m3/year
Pre 1985 and Class III	6,396,079.32 m3	Q_s	545.96 m3/year

Adjust for Collected Methane

Cell 7B/8 and AK LFG	90% of CH4 flow	Q_s	1,836.67 m3/year
Cell 9, 10, 11 and 12	70% of CH4 flow	Q_s	9,421.65 m3/year
Pre 1985 and Class III	70% of CH4 flow	Q_s	382.17 m3/year

Calculate Controlled Sulfur Emissions

	Q_s		
Cell 7B/8 and AK LFG	1,836.67 UMs		2,289.93 kg S/yr
Cell 9, 10, 11 and 12	9,421.65 UMs		11,746.78 kg S/yr
Pre 1985 and Class III	382.17 UMs		476.48 kg S/yr
Total			14,513.19 kg S/yr 31,987.08 lb/year

Adjust for Molecular weight of Sox to sulfur (factor of 2.0)

Total SOx emissions=Ums X 2	Total Sox	63,974.16 lb/year
	Total SOx	31.99 tons/year

Calculate emissions for flare operating period.

SOX emission from flare Cell 7B/8	90 days/ year	0.62
SOX emission from flare cell 9	365 days per year	12.94
SOX emission form flare Class III'	365 days / year	0.53
Total		14.09 tons/ year

Particulate Matter (PM10)

	Flare Oper. Time	Cell	CH4 Flow, ft3/ min	PM10,lb
Calculate PM10 emissions for each unit	90 days	Cell 7B/8 and A-K	1121.12	1,297.89
$CM = (1.0E-3 \text{ Lb/hr-dft}^3/\text{min Ch4}) \cdot 0.536 \cdot (CFM) \cdot \text{time}$	365 days @0.0017	Cell 9-12	1733.95	13,840.58
	365 days	Pre 1985 and Class	321.36	1,508.88
		Total lb/year		16,647.44
		Total tons/year		8.32



The Joint Venture

2301 Lucien Way • Suite 300 • Maitland, Florida 32751 • (407) 647-6623 FAX (407) 539-0575

November 4, 2009

Ms. Caroline Shine
Air Resource Management
Florida Department of Environmental Protection
Central District Office
3329 Maguire Boulevard
Orlando, Florida 32803-3767

**Subject: Responses to FDEP Request for Additional Information (RAI Response)
FDEP File No. 0950113-005-AC
FDEP Application for Title-V Air Construction Permit
Cells 9-12 Southern Expansion Site
Orange County Solid Waste Management Facility ("OCSWMF")**

Dear Ms. Shine:

On behalf of Orange County Utilities (OCU) Solid Waste Division, we hereby provide the responses to the above referenced request for additional information dated October 27, 2009 regarding the Air Construction permit application for the Cell 9-12 permanent landfill gas (LFG) Blower and Flare System.

The RAI Response is formatted in the same order as received from the Department and the comments are repeated for ease of reference.

Comment 1- Regarding the existing air permitted landfill operation, submit the potential emissions based on continuous use of the flare as currently permitted.

Response: The estimated emissions from the existing air permitted landfill operations were previously submitted to the Department as part of the 2008 Annual Air Operations Report. The 2010 potential emissions from all existing landfill operations plus the potential emissions for continuous use of the new proposed flare is calculated and included as Attachment A.

Comment 2- Regarding this specific expansion project, the additional information, dated 10/9/09, indicates a significant increase in potential emissions of CO based on the John Zink emission factor and assumes 8,760 hours per year of flare operation. Submit information that clarifies the date the landfill gas pipeline to the OUC power plant is expected to be completed.

Response: The LFG treatment plant and pipeline to transmit the LFG to OUC pipeline is currently under design. We anticipate submitting the solid waste permit application for construction of the LFG pipeline prior to the end of this year. The proposed flare and blower are scheduled to be constructed and operational prior to January 24, 2010 in order for the OCSWMF to meet the requirements of Part WWC 40 CFR 60, and specifically §60.752(b)(2)(ii)(a)1 requiring a control system in place five (5) years after initial placement of solid waste.

Comment 3- Regarding the existing air permitted landfill operation, submit the potential emissions, based on use of the flare as a backup and routing of landfill gas to the OUC power plant. Clarify whether you would like a permit restriction on annual hours of operation of the flare to equate to these reduced potential emissions.

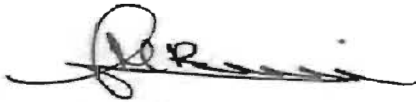
not true yet

Response: As demonstrated in Attachment A, the potential emissions for all operations of the landfill as permitted plus the potential emissions from the 4000 scfm proposed flare will exceed the 250 tpy limitation for CO requiring PSD reviews. Since the LFG treatment plant and pipeline are not in place and are not anticipated to be in place by January 2010, the proposed flare would need to be permitted to operate full time. However, the LFG generation from Cells 9-10 at this time is much less than the 4000 scfm capacity of the flare. Therefore, it is requested the capacity of the proposed flare be restricted to maximum of 3400 scfm at this time. The calculations for potential emissions for all operations of the landfill plus the potential emissions from the proposed flare at 3400 scfm maximum flow is included as Attachment B. Once the LFG treatment plant and pipeline are in place, the proposed flare would be used as a back-up and the operations would be limited. The limitation for the annual hours of operation of the existing and proposed flares will be addressed as part of the Title V Air Operation Permit Application.

If you have any questions or need additional information, please advice.

Sincerely,

CH2M/Neel-Schaffer-Joint Venture



Mehran (Ron) S. Beladi, P.E.
Sr. Engineer Manager
PE No. 41819

Enclosures

Distribution to:

- Mr. James W. Becker, Manager, OCSWD
- Mr. Dan Morrival, P.E., Chief Solid Waste Engineer, OCSWD
- Mr. James Flynt, P.E. Sr. Solid Waste Engineer, OCSWD
- Mr. Bo. Bruner, P.E., CH2M/Neel-Schaffer- Joint Venture
- Mr. Sam Griffin, Manager-Project Development & Support- OUC



ATTACHMENT A

Year 2010 Results From Landgem Model using same parameters as August 2006 air operations permit application

	SCFM/min (avg)	Annual SCFM	Annual cubic meters
Total Landfill Gas	7025.60324	3,692,657,063	104,644,750
Methane	3583.057652	1,863,255,102	53,368,823
Carbon dioxide	3442.545588	1,809,401,961	51,275,928
NMOC (161 ppmv)	1.131122122	594,518	16,848

2008 Allocation of Capture and Control (from 2008 annual air operations report) using operating records

Landfill Unit	Landfill Unit LFG Flows	% of total flow	Assumed % capture	Captured Flow	
Cell 7B/8 and AK LFG	1,488,674,147 CF		0.45	70.00%	0.3138
Cell 9, 10, 11 and 12	1,433,631,744 CF		0.43	70.00%	0.3022
Pre 1985 and Class III	398,262,717 CF		0.12	70.00%	0.0840
Total gas flow	3,320,568,608 CF				0.3000
Gas collected (2008) prior to Cell 7B/8 closure	0.695	Uncaptured Flow			

Operational Year 2010 Allocation of Capture and Control Adjust for Collected LFG (Totals from Landgem Model)

Landfill Unit	Landfill Unit LFG Flows	Captured Flow		
Cell 7B/8 and AK LFG	1,655,488,488 CF	90% of LFG flow	40.35% Q total	0.448319045
Cell 9, 10, 11 and 12	1,594,278,273 CF	70% of LFG flow	30.22% Q total	0.431742847
Pre 1985 and Class III	442,890,302 CF	70% of LFG flow	8.40% Q total	0.119938108
Total Predicted Gas Flow for 2010 (Landgem)	3,692,657,063 CF	Captured Flow	78.97% Q total	
Gas collected after Cell 7B Final Closure		Uncaptured Flow	21.03% Q total	

Landfill Unit	Landfill Unit LFG Flows	CH4 flows	TOTALS FROM LANDGEM
Cell 7B/8 and AK LFG	46,878,495 Cubic meters	23,908,032	35.3145 Ft ³ /m ³
Cell 9, 10, 11 and 12	45,145,204 Cubic meters	23,024,054	
Pre 1985 and Class III	12,541,332 Cubic meters	6,396,079	
Total Predicted Gas Flow for 2010 (Landgem)	104,565,031 Cubic meters	53,328,166	
Gas collected after Cell 7B Final Closure	82,571,221 Cubic Meters collected		

Analysis Performed for Year 2010 LFG Generation And 4000 SCFM Cell 9-12 Flare

161 ppmv as hexane for Cell 9, Cell 10, Cell 11 and Cell 12 NMOC Concentration			
1	Calculation of NMOC landfill emissions-Cell 7B/8 & Cell A-K QCH4=0.51 X QLFG X cubic meter / 35.21 cubic feet= Cp for Cell A-K&7B/8 Qnmoc=1.82*QCH4*Cp(1000,000)= Minmoc=Qnmoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc=23503.03 kg/yr Mnmoc(produced)=23.50 Megagrams/Year	QLFG= 23,908,032.35 cubic meters NMOC concentration=161 ppmv 7,005.53 cubic meters NMOC /year 3140 CFM	46,878,494.81 m ³ /yr
2	Calculation of Collected LFG=QLFG*0.90 Calculation of fugitive LFG=QLFG*0.10	QLFG collected = QLFG fugitive=	42,190,645.33 m ³ /yr 4,687,848.48 m ³ /yr
3	Calculation of NMOC landfill emissions-Cell 9, Cell 10, Cell 11, Cell 12 QCH4=0.51*QLFG X cubic meter / 35.21 cubic feet= Cp for Cell 9, 10, 11 & 12 Qnmoc=1.82*QCH4*Cp(1000,000)= Minmoc=Qnmoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc=42766.28 kg/yr Mnmoc(produced)=42.77 Megagrams/Year	Qlf;QLFG= 43,503,225.54 cubic meters NMOC concentration=161 ppmv 12,747.32 cubic meters NMOC /year MG/year	5713 SCFM 85,300,442.23 m ³ /yr
4	Calculation of Collected LFG=QLFG*0.70 Calculation of fugitive LFG=QLFG*0.30	QLFG collected = QLFG fugitive=	59,710,309.56 m ³ /yr 25,590,132.67 m ³ /yr
5	Calculation of NMOC landfill emissions-Pre 1985 and Class III QCH4=0.51 X QLFG X cubic meter / 35.21 cubic feet= Cp for Pre1985 and Class III Qnmoc=1.82*Qch4*Cp(1000,000)= Minmoc=Qvac*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K)) Mnmoc=6287.73 kg/yr Mnmoc(produced)=6.29 Megagrams/Year	QLFG= 6,396,079.32 cubic meters NMOC concentration=161 ppmv 1,874.18 cubic meters NMOC /year 840 SCFM	12,541,332.00 m ³ /yr
6	Calculation of Collected LFG=Qlf*0.70 Calculation of fugitive LFG=Qlf*0.30	QLFG collected = QLFG fugitive=	8,778,932.40 m ³ /yr 3,762,399.60 m ³ /yr
7	Calc. of NMOC Emitted Fugitive Emissions NMOC Emitted Fugitive Emissions	Cells 9-12 Cells A-K, 7B/8 Pre 1985 cells & CI III 12.83 Megagrams NMOC, 30 percent fugitive L 2.35 Megagrams NMOC, 10 percent fugitive L 1.89 Megagrams NMOC, 30 percent fugitive L 17.07 Megagrams NMOC/Year* 161 ppmv	Tons/year 14.14 2.59 2.08 18.2

8	Calc of NMOC Flared	Cells 9-12 4000 SCFM	2.20 MG NMOC/Yr	600 ppmv-Cell 9-12	Tons/ year																																																																		
	Flare Emission@ 98 percent destruction	Cells A-K, 7B/8 Pre 1985 cells& CI III	0.42 MG NMOC/Yr 0.09 MG NMOC/Yr	365 days operation 365 days Flared	2.43 0.47 0.10																																																																		
Total NMOC emitted-Flares			2.71 MG NMOC/Yr																																																																				
TOTAL ANNUAL NMOC EMISSIONS			19.78 Megagrams NMOC/Year																																																																				
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<table border="1"> <tr> <td colspan="6">Check against tier 1 default for Cell 9-12</td> </tr> <tr> <td colspan="6">Cell 9-12 fugitive emssions @ 600 ppmv</td> </tr> <tr> <td colspan="3"></td> <td>47.21 Megagrams</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">Class III and Pre 1985</td> <td>8.65</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">Cell A-K & 7B</td> <td>2.35</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">Fugitive Emissions</td> <td>58.21 Megagrams</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">Controlled emissions</td> <td colspan="3"></td> </tr> <tr> <td colspan="3">Cells 9-12 at 600ppmv</td> <td>8.11 365 days operation</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">Cells A-K, 7B/8</td> <td>0.42 365 days operation</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">Pre 1985 cells& CI III</td> <td>0.09 365 days Flared</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">Total- Tier 1 emissions</td> <td>66.83 Megagrams/year</td> <td colspan="2">73.65 tons</td> </tr> </table>						Check against tier 1 default for Cell 9-12						Cell 9-12 fugitive emssions @ 600 ppmv									47.21 Megagrams			Class III and Pre 1985			8.65			Cell A-K & 7B			2.35			Fugitive Emissions			58.21 Megagrams			Controlled emissions						Cells 9-12 at 600ppmv			8.11 365 days operation			Cells A-K, 7B/8			0.42 365 days operation			Pre 1985 cells& CI III			0.09 365 days Flared			Total- Tier 1 emissions			66.83 Megagrams/year	73.65 tons	
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	Umvoc=		19922.18 kg/yr																																																																				
			22.01 tons/ year																																																																				
			120.62 lb/day																																																																				
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			0.88 tons/ year																																																																				
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	Flare Gas Emissions= Qvoc=		13,855.78 m3/year																																																																				
	Cmvoc=Qvoc*((86.16g/mole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																																						
	Cmvoc total @100,00 %		46485.09 kg/yr																																																																				
			51.37 tons/ year																																																																				
			281.46 lb/day																																																																				
	Assume 98 % destruction																																																																						
	Cmoc, 98 % destruction		5.63 lb/day	365 day operation	2,054.64 lb																																																																		
					1.03 tons																																																																		
14	Calculate flare Emissions for Pre 1985 Cells and Class III		VOC concentration=		62.79 ppmv																																																																		
	Assume 98 percent VOC destruction, 2 percent VOC emissions																																																																						
	Flare Gas Emissions= Qvoc=		551.23 m3/year																																																																				
	Cmvoc=Qvoc*((86.16g/mole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																																						
	Cmvoc total @100,00 %		1849.33 kg/yr																																																																				
			2.04 tons/ year																																																																				
			11.20 lb/day																																																																				
	Assume 98 % destruction																																																																						
	Cmoc, 98 % destruction		0.22 lb/day	365 day operation	81.74 lb																																																																		
VOC controlled emissions			2,529.22	1.26 T/yr																																																																			

15 Calculation of VOC mass
 Total Mass Emission 25.25 25.25 T/yr

16 Calculation of Carbon Monoxide Emissions- Year 2010

Total CO produced- All landfill units	25.96 MG/Year	From Landgem scaled up
Total LFG Flow	144,720,269.04 m3/year	104,565,031
Cell 7B/8 and A-K LFG Flow	46,878,494.81 m3/year	1.384021673 factor
Cell 9,10, 11 and 12	85,300,442.23 m3/year	21.40 landgem
Pre 1985 and Class III	12,541,332.00 m3/year	25.96

CO mass allocated by LFG Flow		
Cell 7B/8 and A-K LFG	8,409.09 kg/yr	
Cell 9,10, 11 and 12	15,301.24 kg/yr	
Pre 1985 and Class III	2,249.67 kg/yr	

Calculate Fugitive Emissions

Cell 7B/8 and A-K LFG	10% fugitive emissions	840.91 kg/yr	
Cell 9,10, 11 and 12	30% fugitive emissions	4,590.37 kg/yr	
Pre 1985 and Class III	30% fugitive emissions	674.90 kg/yr	
Total Fugitive emissions		6,106.18 Kg/yr CO	13,458.03 1b/yr
Total Fugitive emissions CO		6.73 tons/ yr	
Total Fugitive emissions CO		35.87 lb/day	6.73 T/yr

17 Calculate flare emissions CO

LFG Collected	Heat Value	Emission factor	Annual Flow to Flare, CF
Cell 7B/8 and AK LFG	90% of LFG flow 519 BTU/CF	0.15lb CO/ MMBtu	1,485,532,622.11
Cell 9, 10, 11 and 12	70% of LFG flow 505 BTU/CF	0.37lb CO/ MMBtu	2,102,400,000.00 4000SCFM
Pre 1985 and Class III	70% of LFG flow 493 BTU/CF	0.15lb CO/ MMBtu	309,106,209.73

FLARE EMISSION	Cmco=(0.15lbs CO/MMBtu)*SCF/YR LFG)* BTU/SCF* 1MMBtu/1,000,000 Btu	tons/year
Cell 7B and A_K	Cmco= 115,648.71 lb/yr	365 days 57.82
Cell 9, 10, 11 and 12	Cmco= 392,833.44 lb/yr	365 days 196.42
Pre 1985 and Class III	Cmco= 19,612.79 lb/yr	365 days 9.81
Total Created by combustion	528,094.94 lb/yr	Total 264.05
	1446.84 lb/day	

Total Emissions
 Annual PSD Emission Limit
 Emissions allowed from Cell 9-12 & Cell 7B/8 & A-K, Pre 1985 and Class III plus fugitive
 250 tons

18 Calculate flare emissions NOX

No Fugitive emissions	Emission factor	Annual Flow to Flare, CF
Cell 7B/8 and AK LFG	90% of LFG flow 519 BTU/CF	0.06lb NOX/ MMBtu 1,485,532,622.11
Cell 9, 10, 11 and 12	70% of LFG flow 505 BTU/CF	0.06lb NOX/ MMBtu 2,102,400,000.00
Pre 1985 and Class III	70% of LFG flow 493 BTU/CF	0.06lb NOX/ MMBtu 309,106,209.73

FLARE EMISSION	Cmco=(0.068 lbs CO/MMBtu)*SCF/YR LFG)* BTU/SCF* 1MMBtu/1,000,000 Btu	tons/year
Cell 7B and A_K	Cmco= 52,427.42 lb NOX/yr	365 days 26.21
Cell 9, 10, 11 and 12	Cmco= 70,480.86 lb NOX/yr	365 days 35.24
Pre 1985 and Class III	Cmco= 10,362.48 lb NOX/yr	365 days 5.18
Total Created by combustion	133,270.75 lb NOX/yr	Total 66.64
	365.13 lb NOX/day	

19 Calculate SOx emissions

No Fugitive emissions

Using AP-42 default equations
 $Q_s = 1.82 Q_{ch4} Cs / 1,000,000$
 $UM = Q_s / ((32g/gmole * 1 ATM) / (8.205E-05 m^3-ATM/gmole-K * 1000g/kg * 313K))$ Cs= 200ppmv trs site specific

Calculate Qs for each grouped landfill unit

Cell 7B/8 and AK LFG	23,908,032.35 m3	Qs=	2,040.74 m3/year
Cell 9, 10, 11 and 12	43,503,225.54 m3	Qs=	15,835.17 m3/year
Pre 1985 and Class III	6,396,079.32 m3	Qs=	545.96 m3/year

Adjust for Collected Methane

Cell 7B/8 and AK LFG	90% of CH4 flow	Qs=	1,836.67 m3/year
Cell 9, 10, 11 and 12	70% of CH4 flow	Qs=	11,084.62 m3/year
Pre 1985 and Class III	70% of CH4 flow	Qs=	382.17 m3/year

Calculate Controlled Sulfur Emissions

Cell 7B/8 and AK LFG	1,836.67 UMs=	2,289.93 kg S/yr
----------------------	---------------	------------------

6.73 t/yr
 196.4 t/yr
 new
 * 271 t/yr unrestricted

existing pte - 57.8 + 9.8 + 6.7 = 74.3 t/yr CO
 fugitive
 new emissions - 196.4 t/yr CO
 Total - 74.3 + 196.4 = 270.7

Cell 9, 10, 11 and 12	11,084.62 UMs=	13,820.15 kg S/yr
Pre 1985 and Class III	382.17 UMs=	476.48 kg S/yr
Total		16,586.56 kg S/yr
		36,556.78 lb/year
Adjust for Molecular weight of Sox to sulfur (factor of 2.0)		
Total SOx emissions=Ums X 2	Total Sox	73,113.56 lb/year
	Total SOx	36.56 tons/year
Calculate emissions for flare operating period.		
SOX emision from flare Cell 7B/8	365 days/ year	2.52
SOX emssion from flare cell 9	365 days per year	15.23
SOX emission form flare Class III'	365 days / year	0.53
Total		18.28 tons/ year

20	Particulate Matter (PM10)		CH4 Flow, ft3/ min	PM10,lb
	Calculate PM10 emissions for each unit	Flare Oper. Time	Cell	
	CM=(1.0E-3 Lb/hr-dft3/min Ch4)* 0.536*(CFM)*time	365 days	Cell 7B/8 and A-K	1121.12 5,264.07
		365 days @0.0017	Cell 9-12	2040.00 16,283.51
		365 days	Pre 1985 and Class	321.36 1,508.88
			Total lb/year	23,056.46
	50 TPY		Total tons/year	11.63

ATTACHMENT B

CELL 9-12 PROPOSED FLARE LIMITED TO LFG FLOW OF 3400 SCFM.

Year 2010 Results From Landgem Model using same parameters as August 2006 air operations permit application

	SCFM/min (avg)	Annual SCFM	Annual cubic meters
Total Landfill Gas	7025.60324	3,692,657,063	104,644,750
Methane	3583.057652	1,883,255,102	53,368,823
Carbon dioxide	3442.545588	1,809,401,961	51,275,928
NMOC (161 ppmv)	1.131122122	594,518	16,848

2008 Allocation of Capture and Control (from 2008 annual air operations report) using operating records

Landfill Unit	Landfill Unit LFG Flows	% of total flow	Assumed % capture	Captured Flow	
Cell 7B/8 and AK LFG	1,488,674,147 CF		0.45	70.00%	0.3138
Cell 9, 10, 11 and 12	1,433,631,744 CF		0.43	70.00%	0.3022
Pre 1985 and Class III	398,262,717 CF		0.12	70.00%	0.0840
Total gas flow	3,320,568,608 CF				0.3000
Gas collected (2008) prior to Cell 7B/8 closure	0.695				
		Uncaptured Flow			

Operational Year 2010 Allocation of Capture and Control Adjust for Collected LFG (Totals from Landgem Model)

Landfill Unit	Landfill Unit LFG Flows	Captured Flow	% capture	Q total
Cell 7B/8 and AK LFG	1,655,488,488 CF	90% of LFG flow	40.35%	0.448319045
Cell 9, 10, 11 and 12	1,594,278,273 CF	70% of LFG flow	30.22%	0.431742847
Pre 1985 and Class III	442,890,302 CF	70% of LFG flow	8.40%	0.119938108
Total Predicted Gas Flow for 2010 (Landgem)	3,692,657,063 CF	Captured Flow	78.97%	
Gas collected after Cell 7B Final Closure		Uncaptured Flow	21.03%	

Landfill Unit	Landfill Unit LFG Flows	CH4 flows	TOTALS FROM LANDGEM
Cell 7B/8 and AK LFG	46,878,495 Cubic meters	23,908,032	35,3145 Ft3/ m3
Cell 9, 10, 11 and 12	45,145,204 Cubic meters	23,024,054	
Pre 1985 and Class III	12,541,332 Cubic meters	6,396,079	
Total Predicted Gas Flow for 2010 (Landgem)	104,565,031 Cubic meters	53,328,166	
Gas collected after Cell 7B Final Closure	82,571,221 Cubic Meters collected		

Analysis Performed for Year 2010 LFG Generation And 4000 SCFM Cell 9-12 Flare

161 ppmv as hexane for Cell 9, Cell 10, Cell 11 and Cell 12 NMOC Concentration

1	Calculation of NMOC landfill emissions-Cell 7B/8 & Cell A-K $Q_{CH4} = 0.51 \times Q_{LFG}$ $Q_{CH4} = 0.51 \times 23,908,032.35 \text{ cubic meters} = 12,198,096.51 \text{ cubic meters}$ $C_p \text{ for Cell A-K \& 7B/8}$ $Q_{NMOC} = 1.82 \times Q_{CH4} \times C_p (1000,000) = 7,005.53 \text{ cubic meters NMOC /year}$ $M_{NMOC} = Q_{NMOC} \times ((86.16 \text{ g/mole} \times 1 \text{ ATM}) / (8.205 \text{ E-}05 \text{ m}^3 \text{-ATM/gmole-K} \times 1000 \text{ g/kg} \times 313 \text{ K})) = 3140 \text{ CFM}$ $M_{NMOC}(\text{produced}) = 23503.03 \text{ kg/yr} = 23.50 \text{ Megagrams/Year}$	QLFG= 23,908,032.35 cubic meters NMOC concentration= 161 ppmv QLFG collected = 42,190,645.33 m3/yr QLFG fugitive= 4,687,849.48 m3/yr	46,878,494.81 m3/yr	
2	Calculation of Collected LFG=QLFG*0.90 Calculation of fugitive LFG=QLFG*0.10	QLFG collected = 42,190,645.33 m3/yr QLFG fugitive= 4,687,849.48 m3/yr		
3	Calculation of NMOC landfill emissions-Cell 9, Cell 10, Cell 11, Cell 12 $Q_{CH4} = 0.51 \times Q_{LFG}$ $Q_{CH4} = 0.51 \times 36,976,653.93 \text{ cubic meters} = 18,848,094.50 \text{ cubic meters}$ $C_p \text{ for Cell 9, 10, 11 \& 12}$ $Q_{NMOC} = 1.82 \times Q_{CH4} \times C_p (1000,000) = 10,834.90 \text{ cubic meters NMOC /year}$ $M_{NMOC} = Q_{NMOC} \times ((86.16 \text{ g/mole} \times 1 \text{ ATM}) / (8.205 \text{ E-}05 \text{ m}^3 \text{-ATM/gmole-K} \times 1000 \text{ g/kg} \times 313 \text{ K})) = 36350.27 \text{ kg/yr} = 36.35 \text{ Megagrams/Year}$	Qlfg=QLFG= 36,976,653.93 cubic meters NMOC concentration=161 ppmv Qlfg collected = 50,752,270.10 m3/yr Qlfg fugitive= 21,750,972.90 m3/yr	46,878,494.81 m3/yr 72,503,243.00 m3/yr	
4	Calculation of Collected LFG=QLFG*0.70 Calculation of fugitive LFG=QLFG*0.30	QLFG collected = 50,752,270.10 m3/yr QLFG fugitive= 21,750,972.90 m3/yr		
5	Calculation of NMOC landfill emissions-Pre 1985 and Class III $Q_{CH4} = 0.51 \times Q_{LFG}$ $Q_{CH4} = 0.51 \times 12,541,332.00 \text{ cubic meters} = 6,396,079.32 \text{ cubic meters}$ $C_p \text{ for Pre1985 and Class III}$ $Q_{NMOC} = 1.82 \times Q_{CH4} \times C_p (1000,000) = 1,874.18 \text{ cubic meters NMOC /year}$ $M_{NMOC} = Q_{NMOC} \times ((86.16 \text{ g/mole} \times 1 \text{ ATM}) / (8.205 \text{ E-}05 \text{ m}^3 \text{-ATM/gmole-K} \times 1000 \text{ g/kg} \times 313 \text{ K})) = 840 \text{ SCFM}$ $M_{NMOC}(\text{produced}) = 6287.73 \text{ kg/yr} = 6.29 \text{ Megagrams/Year}$	QLFG= 12,541,332.00 m3/yr NMOC concentration=161 ppmv Qlfg collected = 8,778,932.40 m3/yr Qlfg fugitive= 3,762,399.60 m3/yr		
6	Calculation of Collected LFG=Qlfg*0.70 Calculation of fugitive LFG=Qlfg*0.30	QLFG collected = 8,778,932.40 m3/yr QLFG fugitive= 3,762,399.60 m3/yr		
7	Calc. of NMOC Emitted Fugitive Emissions Cells 9-12 Cells A-K, 7B/8 Pre 1985 cells& CI III NMOC Emitted Fugitive Emissions	10.91 Megagrams NMOC/30 percent fugitive Lf 2.35 Megagrams NMOC/ 10 percent fugitive Lf 1.89 Megagrams NMOC/30 percent fugitive L		Tons/year 12.02 2.59 2.08 15.14 Megagrams NMOC/Year 161 ppmv 16.69

8	Calc of NMOC Flared	Cells 9-12 4000 SCFM	1.87 MG NMOC/Yr	600 ppmv-Cell 9-12	Tons/ year																																																						
	Flare Emission@	Cells A-K, 7B/8	0.42 MG NMOC/Yr	365 days operation	2.05																																																						
	98 percent destruction	Pre 1985 cells& CI III	0.09 MG NMOC/Yr	365 days operation	0.47																																																						
				365 days Flared	0.10																																																						
	Total NMOC emitted-Flares		2.38 MG NMOC/Yr																																																								
	TOTAL ANNUAL NMOC EMISSIONS		17.53 Megagrams NMOC/Year																																																								
	TOTAL ANNUAL NMOC EMISSIONS		19.31 tons/year		19.31 tons																																																						
<table border="1"> <tbody> <tr> <td colspan="6">Check against tier 1 default for Cell 9-12</td> </tr> <tr> <td>Cell 9-12 fugitive emssions @ 600 ppmv</td> <td></td> <td></td> <td>40.13 Megagrams</td> <td></td> <td></td> </tr> <tr> <td>Class III and Pre 1985</td> <td></td> <td></td> <td>8.65</td> <td></td> <td></td> </tr> <tr> <td>Cell A-K & 7B</td> <td></td> <td></td> <td>2.35</td> <td></td> <td></td> </tr> <tr> <td>Fugitive Emissions</td> <td></td> <td></td> <td>51.13 Megagrams</td> <td></td> <td></td> </tr> <tr> <td>Controlled emissions</td> <td>Cells 9-12 at 600ppmv</td> <td></td> <td>6.89</td> <td>365 days operation</td> <td></td> </tr> <tr> <td></td> <td>Cells A-K, 7B/8</td> <td></td> <td>0.42</td> <td>365 days operation</td> <td></td> </tr> <tr> <td></td> <td>Pre 1985 cells& CI III</td> <td></td> <td>0.09</td> <td>365 days Flared</td> <td></td> </tr> <tr> <td>Total- Tier 1 emissions</td> <td></td> <td></td> <td>58.53 Megagrams/year</td> <td></td> <td>64.51 tons</td> </tr> </tbody> </table>						Check against tier 1 default for Cell 9-12						Cell 9-12 fugitive emssions @ 600 ppmv			40.13 Megagrams			Class III and Pre 1985			8.65			Cell A-K & 7B			2.35			Fugitive Emissions			51.13 Megagrams			Controlled emissions	Cells 9-12 at 600ppmv		6.89	365 days operation			Cells A-K, 7B/8		0.42	365 days operation			Pre 1985 cells& CI III		0.09	365 days Flared		Total- Tier 1 emissions			58.53 Megagrams/year		64.51 tons
Check against tier 1 default for Cell 9-12																																																											
Cell 9-12 fugitive emssions @ 600 ppmv			40.13 Megagrams																																																								
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Fugitive Emissions			51.13 Megagrams																																																								
Controlled emissions	Cells 9-12 at 600ppmv		6.89	365 days operation																																																							
	Cells A-K, 7B/8		0.42	365 days operation																																																							
	Pre 1985 cells& CI III		0.09	365 days Flared																																																							
Total- Tier 1 emissions			58.53 Megagrams/year		64.51 tons																																																						
9	Calculate VOC fugitive emissions-Cell 7B/8 and Cell A-K			NMOC concentration=	161 ppmv																																																						
	VOC concentration =0.39* Conc NMOC		VOC concentration=		62.79 ppmv																																																						
	Fugitive Gas Emissions= Qvoc =				294.35 m3/year																																																						
	Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																										
	Umvoc=		987.52 kg/yr																																																								
			1.09 tons/ year																																																								
			5.98 lb/day																																																								
10	Calculate VOC fugitive emissions-Cell 9, Cell 10, Cell 11, Cell 12			NMOC concentration=	161 ppmv																																																						
	VOC concentration =0.39* Conc NMOC		VOC concentration=		232.05 ppmv																																																						
	Fugitive Gas Emissions= Qvoc =				5,047.31 m3/year																																																						
	Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																										
	Umvoc=		16933.36 kg/yr																																																								
			18.71 tons/ year																																																								
			102.53 lb/day																																																								
11	Calculate VOC fugitive emissions-Pre 1985 Cells and Class III			NMOC concentration=	161 ppmv																																																						
	VOC concentration =0.39* Conc NMOC		VOC concentration=		62.79 ppmv																																																						
	Fugitive Gas Emissions= Qvoc =				236.24 m3/year																																																						
	Umvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																										
	Umvoc=		792.57 kg/yr																																																								
			0.88 tons/ year																																																								
			4.80 lb/day																																																								
	VOC Fugitive emissions		113.31 lb/day		20.68 T/yr																																																						
<u>Calculate Controlled VOC Emissions from Flare Stations</u>																																																											
12	Calculate Flare emissions for Cell A-K, and Cell 7B/8			VOC concentration=	62.79 ppmv																																																						
	Assume 98 percent VOC destruction, 2 percent VOC emissions																																																										
	Flare Gas Emissions= Qvoc=				2,649.15 m3/year																																																						
	Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																										
	Cmvoc total @100,00 %		8887.70 kg/yr																																																								
			9.82 tons/ year																																																								
			53.81 lb/day																																																								
	Assume 98 % destruction																																																										
	Cmvoc, 98 % destruction		1.08 lb/day	365 day operation	392.84 lb																																																						
13	Calculate Flare emissions for Cells 9,10,11 and 12			VOC concentration=	232.05 ppmv																																																						
	Assume 98 percent VOC destruction, 2 percent VOC emissions																																																										
	Flare Gas Emissions= Qvoc=				11,777.06 m3/year																																																						
	Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																										
	Cmvoc total @100,00 %		39511.16 kg/yr																																																								
			43.66 tons/ year																																																								
			239.23 lb/day																																																								
	Assume 98 % destruction																																																										
	Cmvoc, 98 % destruction		4.78 lb/day	365 day operation	1,746.39 lb																																																						
					0.87 tons																																																						
14	Calculate flare Emissions for Pre 1985 Cells and Class III			VOC concentration=	62.79 ppmv																																																						
	Assume 98 percent VOC destruction, 2 percent VOC emissions																																																										
	Flare Gas Emissions= Qvoc=				551.23 m3/year																																																						
	Cmvoc=Qvoc*((86.16g/gmole*1 ATM)/(8.205E-05m3-ATM/gmole-K*1000g/kg*313K))																																																										
	Cmvoc total @100,00 %		1849.33 kg/yr																																																								
			2.04 tons/ year																																																								
			11.20 lb/day																																																								
	Assume 98 % destruction																																																										
	Cmvoc, 98 % destruction		0.22 lb/day	365 day operation	81.74 lb																																																						
	VOC controlled emissions		2,220.97		1.11 T/yr																																																						

15	Calculation of VOC mass Total Mass Emission	114.42 lb/day	20.88 T/yr
16	Calculation of Carbon Monoxide Emissions- Year 2010		
	Total CO produced- All landfill units	25.96 MG/Year	From Landgem scaled up
	Total LFG Flow	131,923,069.81 m ³ /year	104,565,031
	Cell 7B/8 and A-K LFG Flow	46,878,494.81 m ³ /year	1.261636597 factor
	Cell 9, 10, 11 and 12	63,975,331.67 m ³ /year	21.40 landgem
	Pre 1985 and Class III	12,541,332.00 m ³ /year	23.67
	CO mass allocated by LFG Flow		
	Cell 7B/8 and A-K LFG	9,224.81 kg/yr	
	Cell 9, 10, 11 and 12	12,589.15 kg/yr	
	Pre 1985 and Class III	2,467.90 kg/yr	
	Calculate Fugitive Emissions		
	Cell 7B/8 and A-K LFG 10% fugitive emissions	922.48 kg/yr	
	Cell 9, 10, 11 and 12 30% fugitive emissions	3,776.75 kg/yr	
	Pre 1985 and Class III 30% fugitive emissions	740.37 kg/yr	
	Total Fugitive emissions	5,439.60 Kg/yr CO	11,988.87 lb/yr
	Total Fugitive emissions CO	5.99 tons/ yr	
	Total Fugitive emissions CO	32.85 lb/day	5.99 T/yr
17	Calculate flare emissions CO		
	LFG Collected	Heat Value	Emission factor
	Cell 7B/8 and AK LFG 90% of LFG flow	519 BTU/CF	0.15lb CO/MMBtu
	Cell 9, 10, 11 and 12 70% of LFG flow	505 BTU/CF	0.37lb CO/MMBtu
	Pre 1985 and Class III 70% of LFG flow	493 BTU/CF	0.15lb CO/MMBtu
	Annual Flow to Flare, CF		
	Cell 7B/8 and AK LFG	1,485,532,622.11	3400 cfm
	Cell 9, 10, 11 and 12	1,786,987,430.22	
	Pre 1985 and Class III	309,106,209.73	
	FLARE EMISSION	Cmco=(0.15lbs CO/MMBtu)*SCF/YR LFG)* BTU/SCF* 1MMBtu/1,000,000 Btu	tons/year
	Cell 7B and A_K	115,648.71 lb/yr	365 days 57.82
	Cell 9, 10, 11 and 12	333,898.60 lb/yr	365 days 166.95
	Pre 1985 and Class III	19,612.79 lb/yr	365 days 9.81
	Total Created by combustion	469,160.10 lb/yr	Total 234.58
	Total Emissions	1285.37 lb/day	
	Annual PSD Emission Limit		240.57
	Emissions allowed from Cell 9-12 & Cell 7B/8 & A-K, Pre 1985 and Class III plus fugitive		250 tons
18	Calculate flare emissions NOX	No Fugitive emissions	Emission factor
	Cell 7B/8 and AK LFG 90% of LFG flow	519 BTU/CF	0.06lb NOX/ MMBtu
	Cell 9, 10, 11 and 12 70% of LFG flow	505 BTU/CF	0.06lb NOX/ MMBtu
	Pre 1985 and Class III 70% of LFG flow	493 BTU/CF	0.06lb NOX/ MMBtu
	Annual Flow to Flare, CF		
	Cell 7B/8 and AK LFG	1,485,532,622.11	
	Cell 9, 10, 11 and 12	1,786,987,430.22	
	Pre 1985 and Class III	309,106,209.73	
	FLARE EMISSION	Cmco=(0.06lb NOX/MMBtu)*SCF/YR LFG)* BTU/SCF* 1MMBtu/1,000,000 Btu	tons/year
	Cell 7B and A_K	52,427.42 lb NOX/yr	365 days 26.21
	Cell 9, 10, 11 and 12	59,908.97 lb NOX/yr	365 days 29.95
	Pre 1985 and Class III	10,262.48 lb NOX/yr	365 days 5.18
	Total Created by combustion	122,698.86 lb NOX/yr	Total 61.35
		336.18 lb NOX/day	

based on restrictions in the new AC permit (3400 acfm) and assumes 8760 hrs/yr of flare operation (all flares)

based on 3,400 cfm flow at the new flare

existing pte - 57.8 + 9.8 + 6.0 = 73.6 t/yr CO
↑ fugitive

new emissions - 167.0 t/yr

total - 167.0 + 73.6 = 240.6 t/yr CO

19	<p>Calculate SOx emissions</p> <p>Using AP-42 default equations $Q_s = 1.82 Q_{ch4} \cdot C_s / 1,000,000$ $UM = Q_s \cdot ((32g/gmole \cdot 1 \text{ ATM}) / (8.205E-05 m^3 \cdot \text{ATM} / gmole \cdot K \cdot 1000g/kg \cdot 313K))$</p> <p>Calculate Q_s for each grouped landfill unit</p> <table border="0"> <tr> <td>Cell 7B/8 and AK LFG</td> <td>23,908,032.35 m3</td> <td>$Q_s =$</td> <td>2,040.74 m3/year</td> </tr> <tr> <td>Cell 9, 10, 11 and 12</td> <td>36,976,653.93 m3</td> <td>$Q_s =$</td> <td>13,459.50 m3/year</td> </tr> <tr> <td>Pre 1985 and Class III</td> <td>6,396,079.32 m3</td> <td>$Q_s =$</td> <td>545.96 m3/year</td> </tr> </table> <p>Adjust for Collected Methane</p> <table border="0"> <tr> <td>Cell 7B/8 and AK LFG</td> <td>90% of CH4 flow</td> <td>$Q_s =$</td> <td>1,836.67 m3/year</td> </tr> <tr> <td>Cell 9, 10, 11 and 12</td> <td>70% of CH4 flow</td> <td>$Q_s =$</td> <td>9,421.65 m3/year</td> </tr> <tr> <td>Pre 1985 and Class III</td> <td>70% of CH4 flow</td> <td>$Q_s =$</td> <td>382.17 m3/year</td> </tr> </table> <p>Calculate Controlled Sulfur Emissions</p> <table border="0"> <tr> <td>Cell 7B/8 and AK LFG</td> <td>1,836.67 UMs=</td> <td>2,289.93 kg S/yr</td> </tr> <tr> <td>Cell 9, 10, 11 and 12</td> <td>9,421.65 UMs=</td> <td>11,746.78 kg S/yr</td> </tr> <tr> <td>Pre 1985 and Class III</td> <td>382.17 UMs=</td> <td>476.48 kg S/yr</td> </tr> <tr> <td>Total</td> <td></td> <td>14,513.19 kg S/yr 31,987.08 lb/year</td> </tr> </table> <p>Adjust for Molecular weight of Sox to sulfur (factor of 2.0) Total SOx emissions=Ums X 2</p> <table border="0"> <tr> <td>Total Sox</td> <td>63,974.16 lb/year</td> </tr> <tr> <td>Total SOx</td> <td>31.99 tons/year</td> </tr> </table> <p>Calculate emissions for flare operating period.</p> <table border="0"> <tr> <td>SOX emission from flare Cell 7B/8</td> <td>90 days / year</td> <td>0.62</td> </tr> <tr> <td>SOX emission from flare cell 9</td> <td>365 days per year</td> <td>12.94</td> </tr> <tr> <td>SOX emission form flare Class III'</td> <td>365 days / year</td> <td>0.53</td> </tr> <tr> <td>Total</td> <td></td> <td>14.09 tons / year</td> </tr> </table>	Cell 7B/8 and AK LFG	23,908,032.35 m3	$Q_s =$	2,040.74 m3/year	Cell 9, 10, 11 and 12	36,976,653.93 m3	$Q_s =$	13,459.50 m3/year	Pre 1985 and Class III	6,396,079.32 m3	$Q_s =$	545.96 m3/year	Cell 7B/8 and AK LFG	90% of CH4 flow	$Q_s =$	1,836.67 m3/year	Cell 9, 10, 11 and 12	70% of CH4 flow	$Q_s =$	9,421.65 m3/year	Pre 1985 and Class III	70% of CH4 flow	$Q_s =$	382.17 m3/year	Cell 7B/8 and AK LFG	1,836.67 UMs=	2,289.93 kg S/yr	Cell 9, 10, 11 and 12	9,421.65 UMs=	11,746.78 kg S/yr	Pre 1985 and Class III	382.17 UMs=	476.48 kg S/yr	Total		14,513.19 kg S/yr 31,987.08 lb/year	Total Sox	63,974.16 lb/year	Total SOx	31.99 tons/year	SOX emission from flare Cell 7B/8	90 days / year	0.62	SOX emission from flare cell 9	365 days per year	12.94	SOX emission form flare Class III'	365 days / year	0.53	Total		14.09 tons / year	<p>No Fugitive emissions</p> <p>Cs=46.9 ppmv from Ap-42 Section 2.4 Cs= 200ppmv trs Site specific for Cell 9-12 Cs= 46.9 ppmv trs Default for Cell 7B/8 A-K & Cl III</p>
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20	<p>Particulate Matter (PM10)</p> <table border="0"> <tr> <td>Calculate PM10 emissions for each unit</td> <td>Flare Oper. Time</td> <td>Cell</td> <td>CH4 Flow, ft3/ min</td> <td>PM10.lb</td> </tr> <tr> <td rowspan="3">$CM = (1.0E-3 \text{ Lb/hr-ft}^3/\text{min CH}_4) \cdot 0.536 \cdot (CFM) \cdot \text{time}$</td> <td>90 days</td> <td>Cell 7B/8 and A-K</td> <td>1121.12</td> <td>1,297.99</td> </tr> <tr> <td>365 days @0.0017</td> <td>Cell 9-12</td> <td>1733.95</td> <td>13,840.58</td> </tr> <tr> <td>365 days</td> <td>Pre 1985 and Class</td> <td>321.36</td> <td>1,508.88</td> </tr> <tr> <td></td> <td></td> <td>Total lb/year</td> <td></td> <td>16,647.44</td> </tr> <tr> <td></td> <td></td> <td>Total tons/year</td> <td></td> <td>8.32</td> </tr> </table>	Calculate PM10 emissions for each unit	Flare Oper. Time	Cell	CH4 Flow, ft3/ min	PM10.lb	$CM = (1.0E-3 \text{ Lb/hr-ft}^3/\text{min CH}_4) \cdot 0.536 \cdot (CFM) \cdot \text{time}$	90 days	Cell 7B/8 and A-K	1121.12	1,297.99	365 days @0.0017	Cell 9-12	1733.95	13,840.58	365 days	Pre 1985 and Class	321.36	1,508.88			Total lb/year		16,647.44			Total tons/year		8.32																									
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Florida Department of Environmental Protection

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

AIR RESOURCES COMPLETENESS REVIEW

SOURCE NAME: Orange County Board of County Commissioners

APPLICANT: James W. Becker, Division Manger
Orange County Solid Waste Division

(jim.becker@ocfl.net)

ADDRESS: 5901 Young Pine Road
Orlando, FL 32829

DATE RECEIVED: 10/13/09

FILE: 0950113-005-AC

PROJECT: Flare Construction

FAX: 407/836-6629

The application for this project has been received and reviewed by this office. The following items are needed to complete the application:

- ✓ 1. Regarding the existing air permitted landfill operation, submit the potential emissions based on continuous use of the flare as currently permitted.
- ✓ 2. Regarding this specific expansion project, the additional information, dated 10/9/09, indicates a significant increase in potential emissions of CO based on the John Zink emission factor and assumes 8,760 hours per year of flare operation. Submit information that clarifies the date the landfill gas pipeline to the OUC power plant is expected to be completed.
- ✓ 3. Regarding the existing air permitted landfill operation, submit the potential emissions, based on use of the flare as a backup and routing of landfill gas to the OUC power plant. Clarify whether you would like a permit restriction on annual hours of operation of the flare to equate to these reduced potential emissions.

Pursuant to Rule 62-4.055, the applicant shall have ninety days after the Department mails a timely request for additional information to submit that information to the Department. If an applicant requires more than ninety days in which to respond to a request for additional information, the applicant may notify the Department in writing of the circumstances, at which time the application shall be held in active status for one additional period of up to ninety days. Additional extensions shall be granted for good cause shown by the applicant. A showing that the applicant is making a diligent effort to obtain the requested additional information shall constitute good cause. Failure of an applicant to provide the timely requested information by the applicable deadline shall result in denial of the application.

Should you have any questions regarding this letter, please call me at 407.893.3335, fax me at 407.897.5963, or write to me at the above address.

Sincerely,



Jeffrey Rustin, P.E.
Permitting Manager
Air Resource Management

10/27/09

Date

Jt 

cc: Mehran S. Beladi, P.E. (ron.beladi@neel-schaffer.com)

Dan Morrical (dan.morrical@ocfl.net)



The Joint Venture

2301 Lucien Way • Suite 300 • Maitland, Florida 32751 • (407) 647-6623 FAX (407) 539-0575

October 9, 2009

Ms. Caroline Shine
Air Resource Management
Florida Department of Environmental Protection
Central District Office
3329 Maguire Boulevard
Orlando, Florida 32803-3767

RECEIVED

OCT 13 2009

DEP Central Dist.

Subject: Responses to FDEP Request for Additional Information (RAI Response)
FDEP File No. 0950113-005-AC
FDEP Application for Title-V Air Construction Permit
Cells 9-12 Southern Expansion Site, Orange County Solid Waste Management Facility

Dear Ms. Shine:

On behalf of Orange County Utilities (OCU) Solid Waste Division, we hereby provide the responses to the above referenced request for additional information dated September 16, 2009 regarding the Air Construction permit application for the Cell 9-12 permanent landfill gas (LFG) Blower and Flare System.

In addition, the LFG developer, Orlando Utilities Commission (OUC), has selected a John Zink Company 4000 scfm flare in lieu of the Perennial Energy, Inc. (PEI) unit that was previously included in the Air Construction Permit application submitted to FDEP. The John Zink flare has different emission factors than the PEI Flare values presented in the submitted application. We have revised the "Emission Unit Information" in Part III portion of the application and a signed and sealed copy of the revised sheets is attached as Attachment A to this RAI Response.

The RAI Response is formatted in the same order as received from the Department and the comments are repeated for ease of reference.

Comment 1- Per CFR 60.752(b)(2)(iii) (A), submit information about the flare that clarifies whether it will meet the applicable requirements of 40 CFR 60.18

Response: The referenced section of the NSPS requires the following:

A. *The stack velocity must be below the maximum permitted velocity, as calculated using the equations in 40 CFR 60.18.*

The stack velocity for the selected flare is in conformance with the equations in 40 CFR 60.18. A manufacture's certification of compliance, an equipment specific catalog sheet, and calculations for the velocity based on equipment specifications are provided in Attachment B. Technical specifications for the blower and flare units are also included in Attachment B.

B. *The presence of a flare pilot flame will be monitored with a thermocouple or other equivalent device.*

Controls for the flare will provide reasonable assurance that it will be "active" at all times when emissions may be vented to it. The flare is equipped with a thermocouple that monitors the flare pilot flame. If there is no flame, a feedback loop closes an actuator-equipped butterfly valve to stop LFG flow to the flare. Information on the flare pilot flame thermocouple is provided in Attachment B. Actuator equipped butterfly valve information is provided in Attachment C.

C. *The flare will be operated at all times when emissions may be vented to it.*

The flare is being installed as part of the OCU-OUC agreement on utilization of LFG in generation of power. The collected LFG is planned to be transmitted to OUC's Curtis H. Stanton Energy Center (CHSEC) via a dedicated pipeline where it will be used as fuel in generation of electricity. The flare is being constructed to be used as a back-up in instances where the power generator cannot take the gas or the CHSEC is shut down for equipment maintenance.

D. *The flare will be operated with no visible emissions.*

To demonstrate that the installed flare is operated in accordance with the requirements of 60.18, a performance test will be conducted that will include tests for visible emissions observation in accordance with U.S. EPA Method 22; determination of the actual velocity of gases from the flare tip; and confirmation that the flare is operational at all times when gases are vented to it. Prior to the test, FDEP will be notified of the proposed testing date and a testing protocol.

Comment 2- Submit information about the flare that clarifies whether it will meet the applicable monitoring requirements of 40 CFR 60.756 will be met.


Response: The proposed flare will comply with the requirements of 40 CFR 60.756(c).

- A. Section 40 CFR 60.756(c)(1) requires a thermocouple be installed at the flame zone in order to indicate the continuous presence of a flame when LFG is sent to the flare. Information and specification for the thermocouple is provided in Attachment B. A butterfly valve will be provided to regulate LFG flow at starting up and shutting down when LFG gas flow is interrupted. Information and specification for the control valve is provided in Attachment C.
- B. Section 40 CFR 60.756(c)(2) requires that the Owner or operator install a device that records flow to the flare or to bypass the flare. A flow meter and recorder will be provided to monitor flow at least once every 15 minutes. Information and specification for the flow meter is provided in Attachment C.

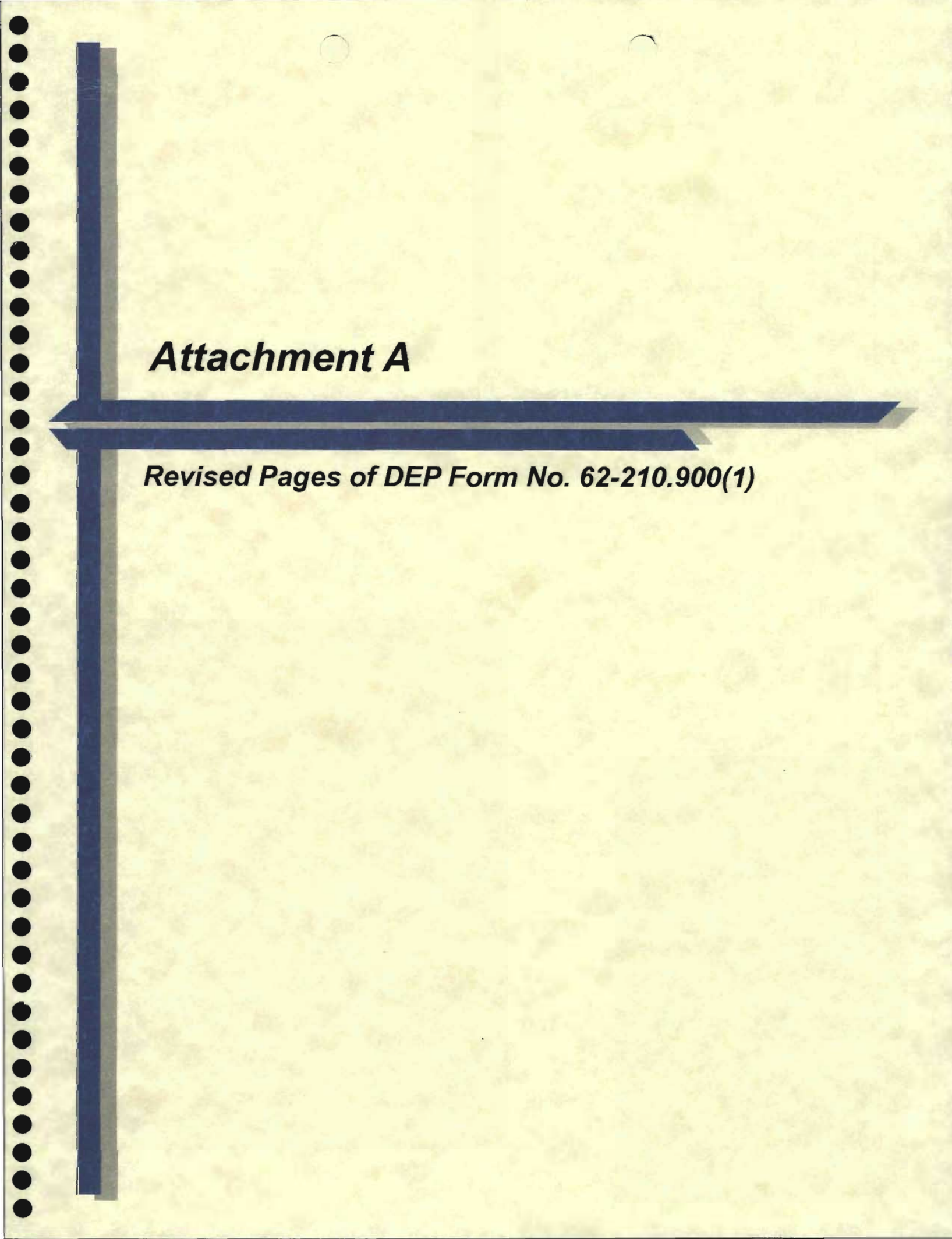
If you have any questions or need additional information, please advice.

Sincerely,

CH2M/Neel-Schaffer-Joint Venture


Mehran (Ron) S. Beladi, P.E.
Sr. Engineer Manager
PE No: 41819
Enclosures
Distribution to:

- Mr. James W. Becker, Manager, OCSWD
Mr. Dan Morrival, P.E., Chief Solid Waste Engineer, OCSWD
Mr. James Flynt, P.E. Sr. Solid Waste Engineer, OCSWD
Mr. Bo. Bruner, P.E., CH2M/Neel-Schaffer- Joint Venture
Mr. Sam Griffin, Manager-Project Development & Support- OUC



Attachment A

Revised Pages of DEP Form No. 62-210.900(1)

EMISSIONS UNIT INFORMATION

Section [1] of [1]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification-

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

4,000 SCFM Landfill Gas Candlestick Flare

3. Emissions Unit Identification Number: **EU 001-D**

4. Emissions Unit Status Code: C	5. Commence Construction Date: Nov 2009	6. Initial Startup Date: Dec 2009	7. Emissions Unit Major Group SIC Code: 49
--	---	---	--

8. Federal Program Applicability: (Check all that apply)

- Acid Rain Unit
- CAIR Unit
- Hg Budget Unit

9. Package Unit: **To be determined**

Manufacturer: **John Zink Company**

Model Number: **To be determined**

10. Generator Nameplate Rating: **To be determined**

11. Emissions Unit Comment: **The proposed 4,000 SCFM flare will be the permanent replacement for the temporary odor control flare (EU001-C, or its temporary replacement.) The permanent flare will combust LFG collected from Cells 9-12. The permanent flare will be the primary control device for the SES until the proposed LFGTE project is brought on line; the permanent flare will then be used only on a backup basis.**

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control: Not Applicable	
3. Potential Emissions: 8.2 lb/hour 36.1 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.068 lb/MMbtu Reference: Manufacturers Guarantee		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Potential Hourly Emissions: $=(4,000 \text{ ft}^3 / \text{min}) * (60 \text{ min/hr}) * (505 \text{ Btu} / \text{ft}^3) * (\text{MMbtu} / 10^6 \text{ Btu}) * (0.068 \text{ lb/MMbtu})$ $= 8.2 \text{ lb} / \text{NO}_x / \text{hr}$ Potential Annual Emissions: $=(8.2 \text{ lb NO}_x / \text{hr}) * (8,760 \text{ hr/yr}) * (\text{ton} / 2,000 \text{ lb})$ $= 36.1 \text{ tons NO}_x / \text{yr}$			
11. Potential, Fugitive, and Actual Emissions Comment: The emissions information is based on the maximum capacity of the 4,000 SCFM flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 has been developed and is active at this time. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be substantially reduced.			

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control: Not Applicable	
3. Potential Emissions: 44.8 lb/hour 196.4 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.37 lb CO/MMbtu Reference: Manufacturers Guarantee- (Perennial Energy, Inc.)		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Potential Hourly Emissions: $=(4,000 \text{ ft}^3/\text{min}) \cdot (60 \text{ min/hr}) \cdot (505 \text{ Btu}/\text{ft}^3) \cdot (\text{MMbtu}/10^6 \text{ Btu}) \cdot (0.37 \text{ lb/MMbtu})$ =44.8 lb CO/ hr Potential Annual Emissions: $=(44.8 \text{ lb CO/hr}) \cdot (8,760 \text{ hr/yr}) \cdot (\text{ton}/ 2,000 \text{ lb})$ =196.4 tons CO/yr			
11. Potential, Fugitive, and Actual Emissions Comment: The emissions information is based on the maximum capacity of the 4,000 SCFM flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 has been developed and is active. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be reduced.			

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO_x		2. Total Percent Efficiency of Control: 98 percent	
3. Potential Emissions: 7.3 lb/hour 32.1 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 200 PPMV TRS, 98 % conversion rate to SO_x Reference: Site Specific Data		7. Emissions Method Code: 3	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
<p>10. Calculation of Emissions: $Q_s = (4,000 \text{ ft}^3 / \text{min}) * (525,600 \text{ Min} / \text{yr}) * (\text{m}^3 / 35.3198 \text{ ft}^3) * (200.0 \text{ ppmvS} / 10^6) = 11,905 \text{ m}^3 / \text{yr S}$ $UM_s = (11,905 \text{ m}^3 / \text{yr S}) * [(32 \text{ g} / \text{g-mol}) * (1 \text{ atm})] / [(8.205 \times 10^{-5} \text{ m}^3 \cdot \text{atm} / \text{gmol} \cdot \text{K}) * (1,000 \text{ g} / \text{kg}) * (273 + 39 \text{K})] = 14,881 \text{ kg S} / \text{yr}$ $CM \text{ SO}_x = (14,881 \text{ kg S} / \text{yr}) * (100 / 100) * (2.0 \text{ kg SO}_x / \text{kg S}) * (0.98 \text{ destruction efficiency}) = 29,168 \text{ kg} / \text{year}$ $SO_x \text{ (tpy)} = (29,168 \text{ kg SO}_x / \text{year}) * (2.2 \text{ lb} / \text{kg}) * (1 \text{ ton} / 2,000 \text{ lb}) = 32.1 \text{ tons} / \text{yr}$ $SO_x \text{ (lb/hr)} = (32.1 \text{ tons} / \text{yr}) * (2,000 \text{ lb} / \text{ton}) * (\text{yr} / 8,760 \text{ hr}) = 7.3 \text{ lb} / \text{hr}$</p>			
<p>11. Potential, Fugitive, and Actual Emissions Comment:</p> <p>The emissions information is based on the maximum capacity of the 4,000 SCFM flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 is active at this time. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be reduced.</p>			

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control: 98 percent
3. Potential Emissions: 0.23 lb/hour 2.1 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 232.05 VOC in Landfill Gas Reference: AP-42 Section 2.4, Table 2.4.2, footnote (c)	7. Emissions Method Code: 5
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years
<p>10. Calculation of Emissions:</p> $Q_{voc} = (4,000 \text{ ft}^3 / \text{min}) * (525,600 \text{ Min} / \text{yr}) * (\text{m}^3 / 35.3198 \text{ ft}^3) * (232.05 \text{ ppmvS} / 10^6)$ $Q_{voc} = 13,813 \text{ m}^3 / \text{yr VOC}$ $UM_s = (13,813 \text{ m}^3 / \text{yr VOC}) * [(86.18 \text{ g} / \text{g-mol}) * (1 \text{ atm})] / [(8.205 \times 10^{-5} \text{ m}^3 \cdot \text{atm} / \text{gmol} \cdot \text{K}) * (1,000 \text{ g} / \text{kg}) * (273 + 39 \text{K})] = 46,693 \text{ kg VOC} / \text{yr to flare}$ $CM_{voc} = (46,693 \text{ Kg VOC} / \text{yr}) * (1 - 0.98 \text{ destruction efficiency}) = 933.9 \text{ kg} / \text{year}$ $\text{VOC (tpy)} = (933.9 \text{ kg VOC} / \text{year}) * (2.2 \text{ lb} / \text{kg} * (\text{ton} / 2,000 \text{ lb})) = 1.03 \text{ tons} / \text{yr}$ $\text{VOC (lb/hr)} = (1.03 \text{ tons} / \text{yr}) * (2,000 \text{ lb} / \text{ton}) * (\text{yr} / 8760 \text{ hr}) = 0.23 \text{ lb} / \text{hr}$	
<p>11. Potential, Fugitive, and Actual Emissions Comment:</p> <p>The emissions information is based on the maximum capacity of the 4,000 scfm flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 is active at this time. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be reduced. Calculated 2.1 tpy, SCS markup showed 1.0 tpy</p>	

ATTACHMENT 3

**DESCRIPTION OF PROPOSED CONSTRUCTION, MODIFICATION,
OR PLANT-WIDE APPLICABILITY LIMIT**

PROPOSED CONSTRUCTION

The proposed construction under this permit application consists of a 4,000 SCFM flare with associated compressors and blower to control the LFG from Cells 9-12. The proposed flare is as follows:

1. A permanent landfill gas (LFG) candlestick flare with a rated capacity of 4,000 standard cubic feet per minute (SCFM) designated as EU 001-D in this application.

The 4,000 SCFM flare will serve as the primary control device for LFG collected from the SES Cells 9-12 until the proposed LFGTE project is constructed and operational. At that time the 4,000 SCFM candlestick flare will be used as a backup control device to combust LFG when the LFGTE System is offline or to combust surplus LFG not used.

FLARE POTENTIAL EMISSIONS

The potential emissions of the flare are based on the rated capacity of the flare, the heat content of the LFG, and the pertinent emission factors for each pollutant. The emission factors used to calculate the flare potential emissions are summarized below and consist of manufacturer guaranteed emission levels and factors obtained from U.S. EPA's *Compilation of Air Pollutant Emission Factors*, which is commonly referred to as AP-42.

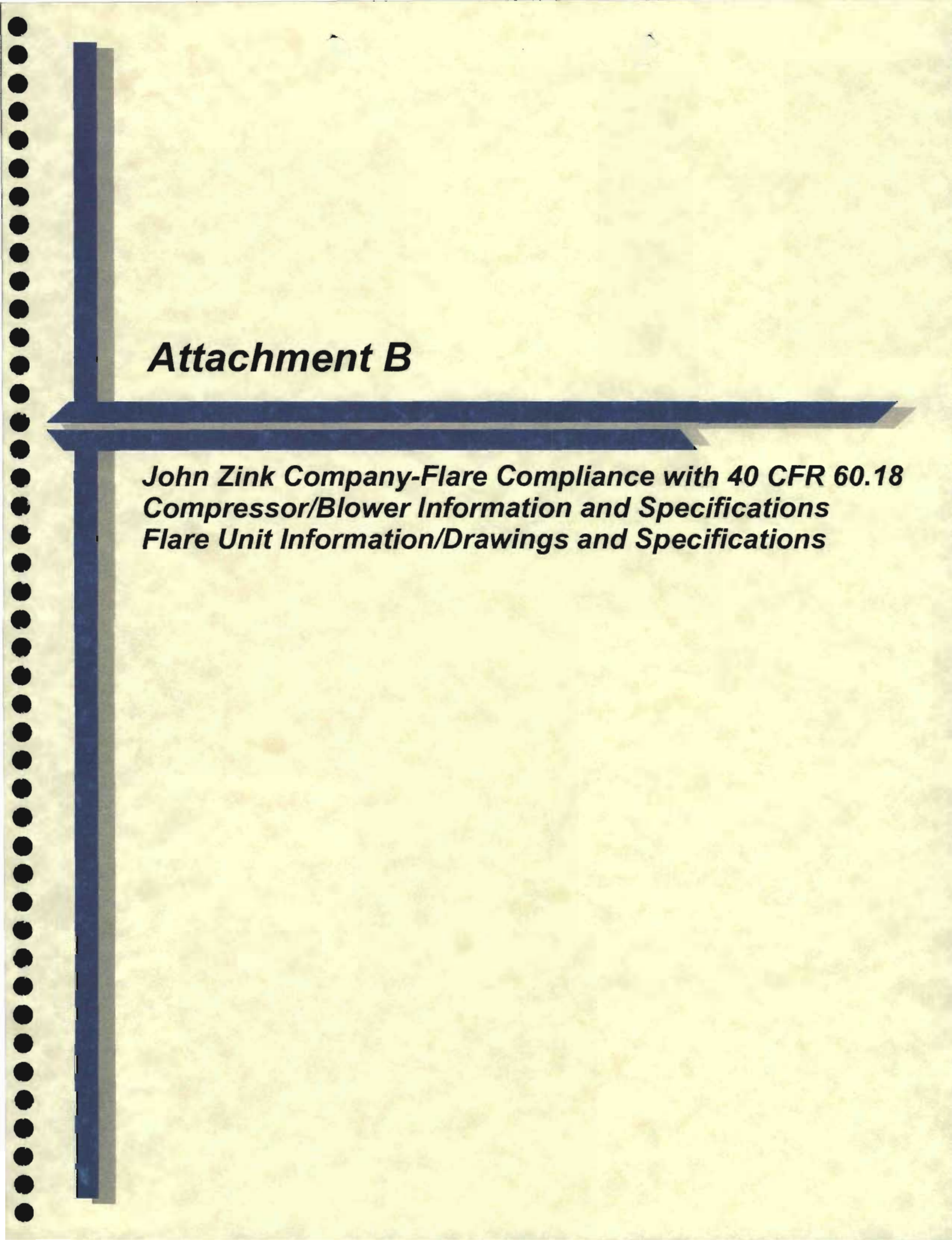
Table 3.1
Emission Factors and Source

Pollutant	Emission Factor	Source
NO _x	0.068 lb/MMBtu	Manufacturer's guarantee
CO	0.37 lb/MMBtu	Manufacturer's guarantee
SO _x	200 ppm TRS inlet, 98% conversion to SO _x	Site- Specific Data
PM ₁₀	17 lb/MMscf CH ₄	AP-42
VOC	232 ppmv inlet, 98% DRE	AP-42

Based on a flow rate of 4,000 SCFM to the flare, an assumed methane content of 50 percent by volume, and a higher heating value of 1010 standard cubic foot of methane, the resulting flare potential emissions are as shown below in Table 3-2:

Table 3-2
4,000 SCFM Flare Potential Emissions

Estimated Emission Rates		
Pollutant	Pounds/Hour	Tons/Year
NOx	8.2	36.1
CO	44.8	196.4
SOx	7.3	32.1
PM10	2.0	8.9
VOC	0.23	1.0



Attachment B

***John Zink Company-Flare Compliance with 40 CFR 60.18
Compressor/Blower Information and Specifications
Flare Unit Information/Drawings and Specifications***

John Zink Company-Flare Compliance with 40 CFR 60.18

Calculation of Flare Tip Exit Velocity

(Sixteen- Inch Diameter Elevated ZEF Flare-John Zink Sales Order 9099706)

Given:

1. The flare for this project is a sixteen-inch (16") outside diameter flare per John Zink catalog sheet D-F-9099706-301. This is confirmed in the Letter from John Burr, John Zink Project Manager, dated September 30, 2009.
2. The e-mail from Brandy Johnson P.E. of John Zink Company LLC Biogas Division, dated October 1, 2009, states that the pipe is made of Carbon Steel A53B and that the inside diameter of the pipe is 15-inches.

Calculation:

Based on the information given above, the cross-sectional area is:

$$[(3.1415 \times (15\text{-in} \times 1.0 \text{ foot}/12\text{-in})^2) / 4 = 1.23 \text{ ft}^2$$

Exit Velocity is calculated as the volumetric flow rate divided by the cross sectional area of the pipe (candlestick flare stack). The exit velocity for a flow rate of 4000 scfm is:

$$4000 \text{ scf}/\text{min} \times \text{min}/60 \text{ sec} \times 1/1.23 \text{ ft}^2$$

$$= 66.67 \text{ scf}/\text{sec} \times 1/1.23$$

Exit Velocity= 54.20 feet/ second.

The 16-inch OD flare stack meets the exit velocity criteria for 40 CFR Section 60-18 Paragraph (c)(3)(1)(B), which states that the exit velocity using the volumetric method shall be less than 60 feet per second.





International Headquarters
11920 E. Apache Street
Tulsa, Oklahoma 74116
918/234-5737

John Burr
Project Manager

DATE: September 30, 2009
TO: **Lindsey Kennelly**
COMPANY: SCS Engineers
REFERENCE: Sales Order 9099706

To Whom It May Concern:

The exit velocity of the 16" diameter Elevated ZEF Flare for Sales Order 9099706 is designed to comply with limiting velocity criteria established by the Code of Federal Regulations, Title 40, Part 60.18 (40 CFR 60.18).

Best Regards,


John Burr
Project Manager
John Zink Company

09/30/09

<http://www.scsengineers.>

From: Johnson, Brandy [mailto:brandy.johnson@johnzink.com]
Sent: Thursday, October 01, 2009 3:22 PM
To: Kennelly, Lindsey
Cc: Burr, John
Subject: RE: OUC Flare

Lindsey,

Our pipe we use for the stack is Carbon Steel A53B. So for standard 16" OD, the ID is 15" (1/2" thick pipe).

Let me know if you need anything else.

Brandy S. Johnson, P.E.
Sr. Applications Engineer
Biogas Division
John Zink Company, LLC
11920 E Apache Street
Tulsa, OK 74116
918-234-2961 (phone)
918-234-1968 (fax)
brandy.johnson@johnzink.com

From: Kennelly, Lindsey [mailto:LKennelly@SCSEngineers.com]
Sent: Thursday, October 01, 2009 1:14 PM

Compressor/ Blower Information and Specifications



Friday, September 04, 2009

Jeff Pierce
SCS Energy
(Orange County Landfill Project)
3900 Kilroy Airport Way
Long Beach CA 90806

RE: Specifications for Approval for (2) New HSI 12606 Gas Multistage Centrifugal Blower Packages

- **HSI Job WO#30548, SCS Energy (Orange County Landfill) PO#06-4076**

Jeff:

In reference to your recent purchase order for **(2)** HSI 12606 Gas Multistage Centrifugal Blower Packages, I am enclosing the submittal package for your review.

Please indicate your agreement with the attached specifications by signing below and faxing a copy to me at 713-547-5508.

Delivery is tentatively 10-12 weeks after reception of the submittal approval.

Sincerely,

Colleen Stanley
Project Engineer

SIGNATURE

DATE

PRINT

TITLE



7901 Hansen Rd., Houston, TX 77061

MULTISTAGE CENTRIFUGAL BLOWER

Submittal Package

PREPARED FOR:
SCS Energy
Orange County Landfill

PO # 06-4076/ Job# 06209004.01T1
HSI JOB # WO30548

Sept 04, 2009



DET NORSKE VERITAS

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. CERT-10967-2006-AQ-HOU-ANAB

This is to certify that



Houston Service Industries, Inc.

at

7901 Hansen Road, Houston, TX 77061 USA

has been found to conform to the Management System Standard:

ISO 9001:2000

This Certificate is valid for the following product or service ranges:

**The Design, Manufacture, Repair and Re-Manufacture of Multistage
Centrifugal Blowers, High Speed Turbo Blowers and Related Accessories for
Various Applications**

Initial Certification date:

March 09, 2006

This Certificate is valid until:

March 27, 2012

*The audit has been performed under the
supervision of*

Michael Polk
Lead Auditor



Place and date:

Houston, Texas, April 02, 2009

for the Accredited Unit:

DET NORSKE VERITAS
CERTIFICATION INC., HOUSTON TEXAS

Rudy Frueboes
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

TABLE OF CONTENTS

Section

Contents

1..... **Factory Data Sheet**
Specifications

2..... **Multistage Centrifugal Blower**
Specifications

3..... **Motor**
Specifications

4..... **Accessories**
Specifications

SECTION 1

**Factory Data Sheet
Specifications**



Work Order ID WO30548/1	Part ID	Release 8/26/2009	Want Date 11/27/2009	Start Date	Finish Date	Qty 2.00	Drawing ID/Rev
----------------------------	---------	----------------------	-------------------------	------------	-------------	-------------	----------------

Cust Order#: CO028657	Customer: SCSENERGY	Ship To:
Date: 8/26/2009	SCS ENERGY	SCS ENERGY
Ship Via:	3900 KILROY AIRPORT WAY	ORANGE COUNTY LANDFILL
Cust PO#: 06-4076	STE 100	5901 YOUNG PIN RD.
Contact: JEFF PIERCE	LONG BEACH, CA 90806	ORLANDO, FL 32729

FACTORY DATA

(2) HSI 12606 GAS MSCB - NEW
 SERIAL NO(1): 0809285-30548
 (2): 0809286-30548

BLOWER SPECIFICATIONS

DRIVE : DIRECT INLET (OP SPEED 3650 RPM)
 INLET ORIENT: VERTICAL POS#1
 DISCH ORIENT: VERTICAL POS#1
 SHAFT MAT'L : 4140 CARBON STEEL
 BRG HSG TYPE: CLOSED W/ STUFFING BOX
 BRG SIZE : 313
 SEALS : LABRINTH
 LUBE : GREASE
 BRASS DFLCTR: NO
 PAINT COLOR : STANDARD GRAY

IMPELLER INFORMATION

STARTING AT INLET
 WHEEL #1 : 5022 CAST B.C.
 #2-6: 5012 CAST B.C.
 COATING : NO

ADDITIONAL COMPONENTS

SKID : YES (2) 30" X 130" HSI 126 STANDARD
 MOTOR BASE : YES (2) 447TS FRAME HSI STANDARD
 MOTOR : YES WEG (2) 200HP CLASS 1 DIV 2 GROUP D
 460/3/60 TEFC
 COUPLING : YES (2) OMEGA E40 W/ STANDARD GUARD
 CHECK VALVE : NO
 B/FLY VALVE : NO
 EXP JNT/TUBE: NO
 TEMP SENSOR : NO
 VIBR SENSOR : NO
 PRES GAUGE : NO
 FLTR/SILNCER: NO
 RUBBER BASE : YES (20) 5/8"X6"X6" NEOPRENE PADS
 COATING : YES HERESITE P403L COAT ALL INTERNAL
 CAST IRON

COMMENTS

- 1) BUBBLE TEST REQUIRED
- 2) PROVIDE EXTERNAL DRAINS TO 1/2" BALL VALVE
- 3) LIFTING LUGS REQUIRED
- 4) DRILL AND TAP BEARING HOUSING TO 1/2" NPS
- 5) HERESITE P403L COAT ALL INTERNAL CAST IRON EXCLUDING IMPELLERS
- 6) SEE SHIPPING NOTES
- 7) PROVIDE (2) 14OZ TUBE OF 221001211



Datasheet No. : 34866
Design Date : 7/28/2009
Quote/Job No. :
Prepared By : csiew

Customer
SCS Engineers

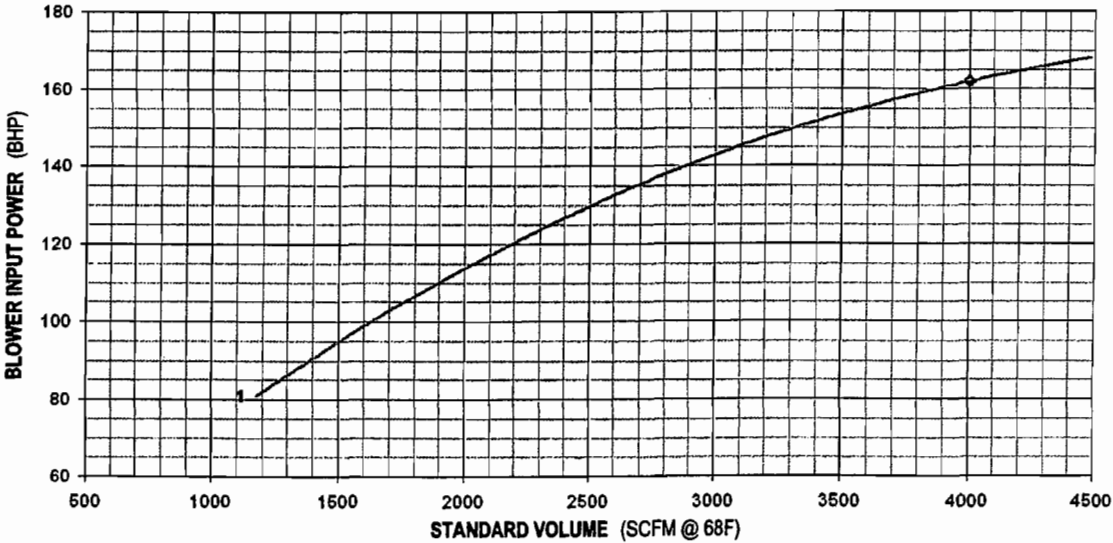
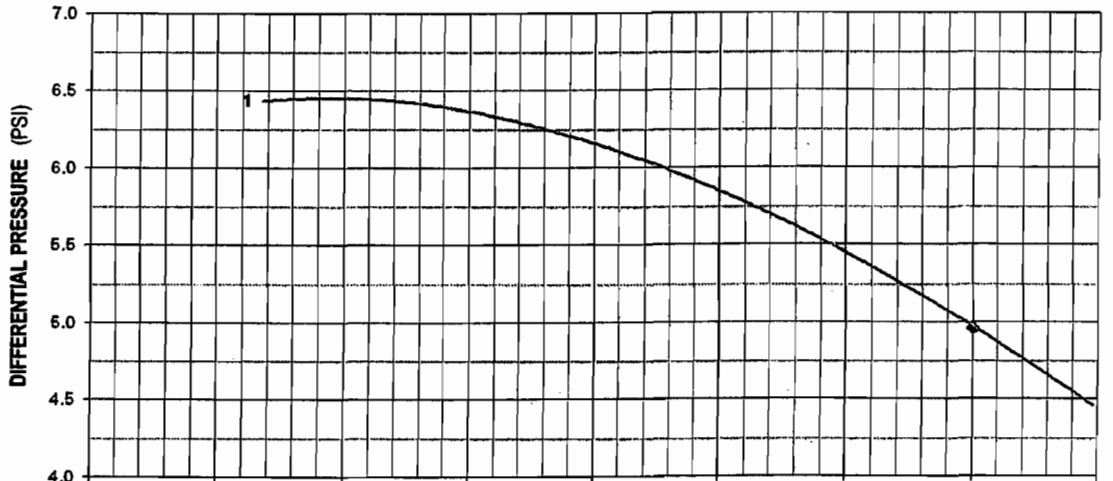
Project
Orlando Utilities Commission

Site Data
Elevation: 100 ft a.s.l.

Gas Data

MW : 28.94626 RH: 0.0%
k : 1.2784 Cp: 0.3152

Gas	Pct
Methane (CH4)	50.000
Carbon Dioxide (CO2)	43.000
Nitrogen (N2)	6.000
Oxygen (O2)	1.000



Curve Data

1. Design

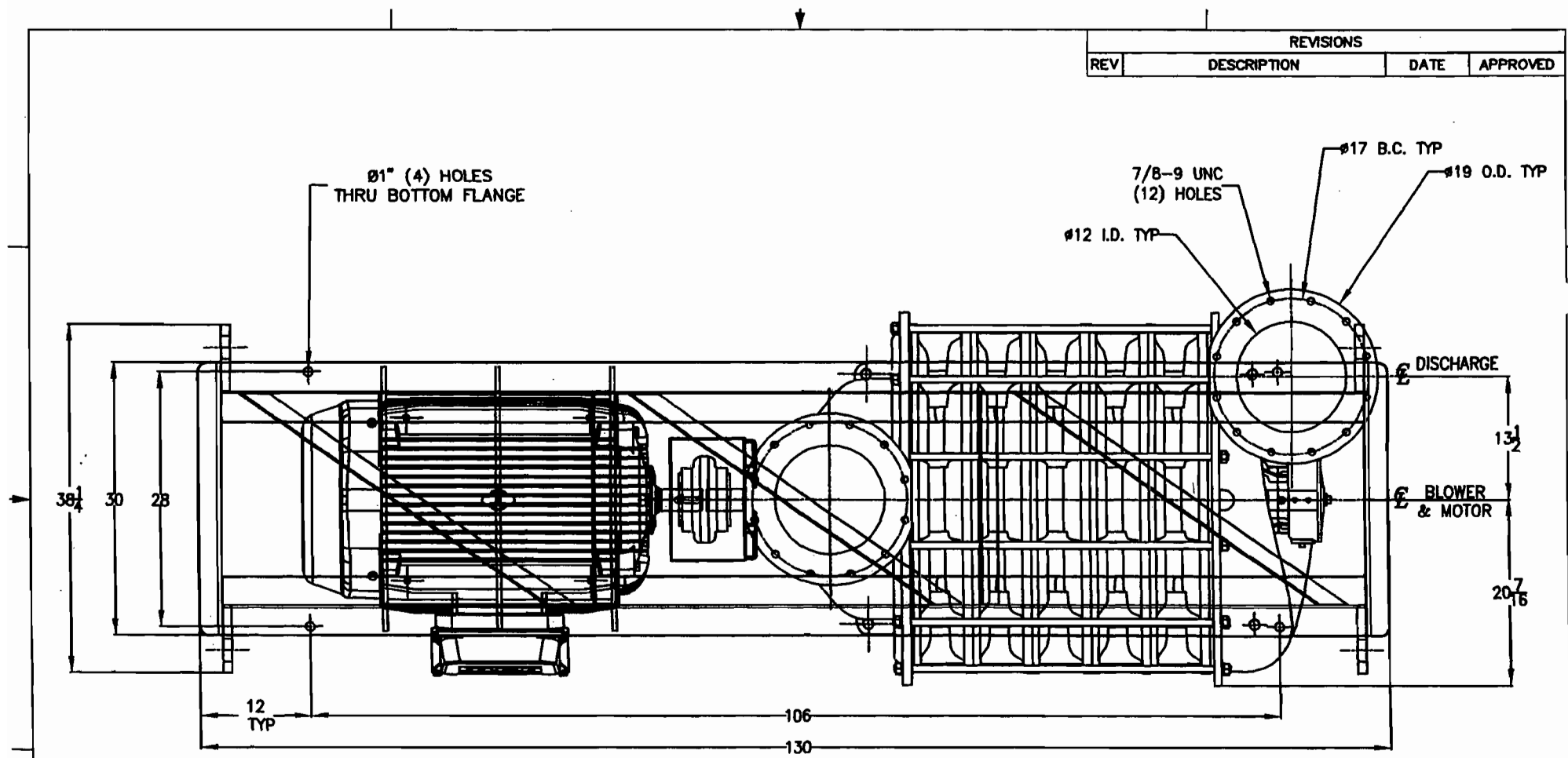
EXHAUSTER	Model	HSI 12606	
	Configuration		
	Impeller 1	(1) 5022	
	Impeller 2	(5) 5012	
	Impeller 3		
Driver			
Control Method			

CONDITIONS	Op. Speed	RPM	3,650
	Inlet Throttling	valve/%closed	none
	Bar. Pressure	PSIA	14.643
	Disch. Pressure	PSIG	2.00
	Inlet Temp.	°F	105.00
	Inlet Humidity	% RH	100.0
	MW / k / Cp		27.905/1.271/0.3336

PERFORMANCE	Volume (Std.)	SCFM@68F	4000.0
	Volume (Inlet)	CFM	5833.0
	Inlet Vacuum	inWC	82.00
	Diff. Pressure	PSI	4.96
	Power	BHP	162.13
	Efficiency	%	67.74
	Disch. Temp.	°F	170.93
	Pressure Rise	PSI	1.48
Turndown	%	70.62	

SURGE	Surge Pressure	PSI	6.43
	Surge Volume	SCFM	1175.0

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



TOTAL ASSEMBLY WEIGHT	
BLOWER	5100 LBS
MOTOR	1993 LBS
SKID	715 LBS
MOTOR BASE	224 LBS
COUPLING	35 LBS
TOTAL WEIGHT	8067 LBS

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES
 DIMENSIONS
 FINAL OUTSIDE DIM. WHEN MEASURED FROM OPP. OUTSIDE DIM. ±(1/16)
 ELEVATIONS IN REF. TO ANY OTHER ELEVATION ±(1/16)
 TILTS IN BEAM FLANGE, WEB, OR SURFACE ±(1/2 DEG.) BUT NOT TO EXCEED 1/8".
 BOLT HOLE ORIENTATION ±(1/16)

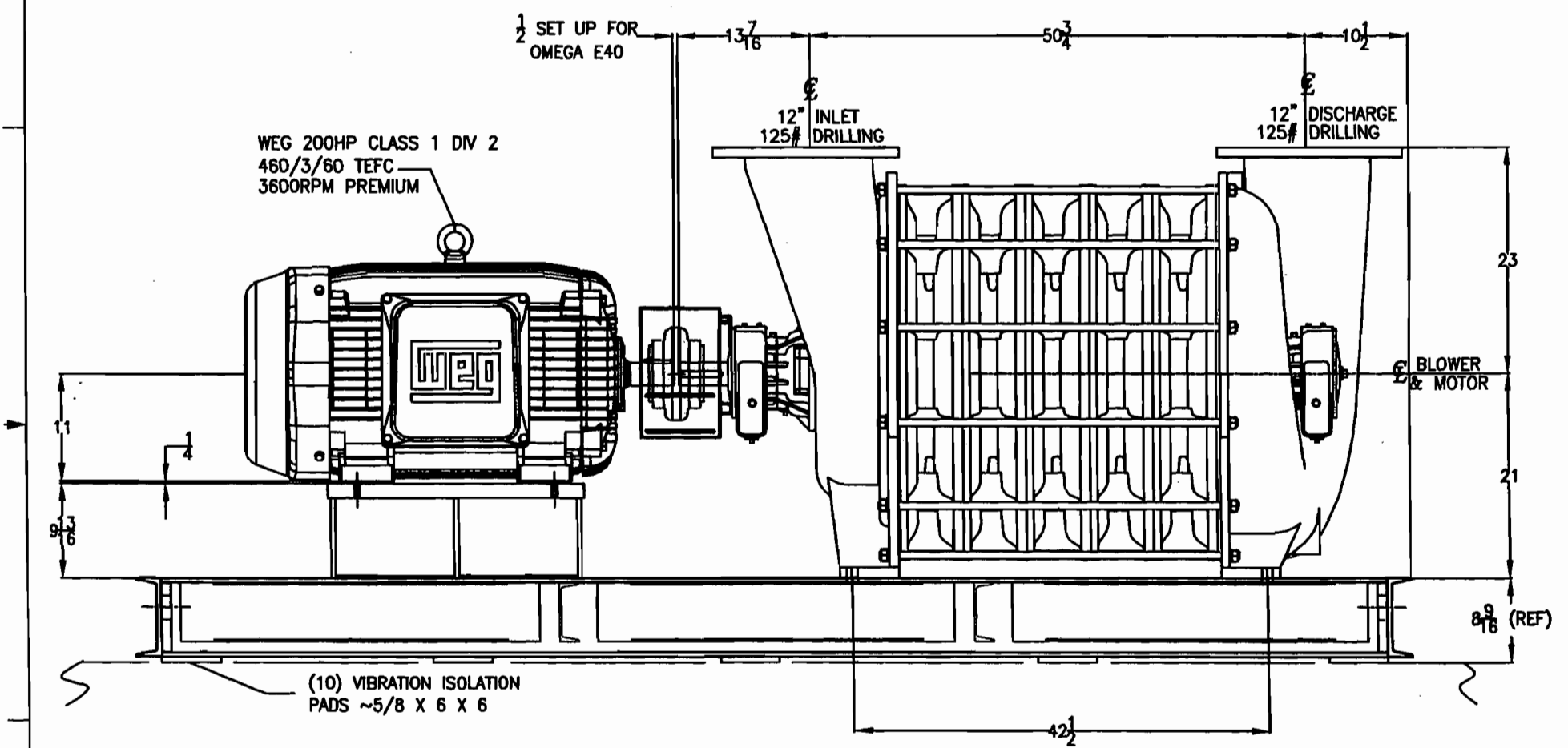
MATERIAL:
 DRAWN BY J.M. 08/28/09
 CHECK'D BY A.M. 09/04/09
 REVISION BY

HSI HOUSTON SERVICE INDUSTRIES
 7901 HANSEN, HOUSTON, TX 77061
 TITLE HSI 126 SERIES (TOP VIEW)
 6 STAGE BLOWER ASSEMBLY
 SIZE B REF. PRT. NO./DWG. NO. W030548-001 REV 0
 SCALE: NONE DO NOT SCALE DRAWING SHEET: 2 OF 2



SCS ENERGY W030548-001

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0			



NOTES:

- 1) APPLICATION: GAS
- 2) LUBE: GREASE
- 3) IMPELLER MIX: (1) 5022, (5) 5012
- 4) INTERNAL COATING: YES COAT ALL INTERNAL CAST IRON W/ HERESITE P403 (EXCLUDING IMPELLERS)
- 5) EXTERNAL COATING: HSI STANDARD GRAY
- 6) DRAINS: EXTERNAL DRAINS THAT MANIFOLD TO A 1/2" BALL VALVE
- 7) OPERATING SPEED: 3650
- 8) LIFTING LUGS: YES
- 9) DRILL & TAP BEARING HOUSING 1/2" NPS

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES
 TOLERANCES
 FINAL OUTSIDE DIM. WHEN MEASURED FROM OPP. OUTSIDE DIM. ±(1/8)
 ELEVATIONS IN REF. TO ANY OTHER ELEVATION ±(1/16)
 TILTS IN BEAM FLANGE, WEB, OR SURFACE ±(1/2 DEG.) BUT NOT TO EXCEED 1/8".
 BOLT HOLE ORIENTATION ±(1/16)

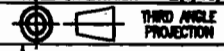
MATERIAL:
 DRAWN BY J.M. 08/28/09
 CHECK'D BY A.M. 09/04/09

HSI HOUSTON SERVICE INDUSTRIES
 7901 HANSEN, HOUSTON, TX 77061

TITLE
HSI 126 SERIES (SIDE VIEW)
6 STAGE BLOWER ASSEMBLY

SIZE	REF.	PRT. NO./DWG. NO.	REV
B		WO30548-001	0

SCALE: NONE DO NOT SCALE DRAWING SHEET: 1 OF 1



TECHNICAL BULLETIN

P-403L

July 2001

P-403L Baking Phenolic Coating

General Description: Baking Phenolic Coating

Intended Usage: HERESITE P-403L material is a highly chemical resistant baked phenolic coating designed for use in tank cars, railcars, and storage tanks where chemicals with a pH values less than 9 are likely to be encountered.

FDA Status: *This material meets the requirements of 21 CFR 175.300 for direct food contact.*

Physical Data:

VOC: As Supplied

3.02 lbs./gal. (357 gm/L)

Thinned 10% with S-215:

3.36 lbs./gal. (398 gm/L)

Solids

65.18 % by volume

69.05 % by weight

Coating Density

10.71

Thinning Solvent Density:

S-215: 6.75 lbs./gal.

Approximate Shipping Weights:

P-403L: 13 lbs. per 1 gal; 59 lbs. per 5 gal.

S-215: 8.5 lbs. per 1 gal; 38 lbs. per 5 gal.

Color: Brown

General Chemical Resistance

This coating offers excellent immersion service resistance to 92-98% sulfuric acid temperatures to 120°F. It has also show excellent resistance to solvents, acids, salts and mildly alkaline solutions. Please consult the Chemical Resistance Guide, Sales Representative or Manufacturer for your specific requirements. Some examples are:

- Sulfuric Acid
- Phenol
- Anhydrous Chlorobenzene
- Carbon Tetrachloride

Coverage:

Theoretical coverage is 1,040 square feet per gallon per mil. This equates to 138 square feet per gallon at 6 mils dry film thickness with a 20 % loss factor.

Shelf Life:

4 months from date of purchase

Abrasion Resistance:

80 mg. weight loss per 1,000 cycles cs-17 wheel with 1,000 gram weight.

Flexibility:

Passes 1 inch on a Mandrel Bend Test

Temperature Limits:

P-403L accepts dry heat temperatures up to 400°F (204°C).

Recommended Total DFT:

Recommended DFT is 5.0 - 7.0 mils (125-175 microns) in a two to three coat application, approximately 5 wet mils will achieve 3 dry mils.

APPLICATION INSTRUCTIONS

These instructions are not intended to show product recommendations for specific service. They are issued as an aid in determining correct surface preparation, mixing instructions and application. It is assumed that the proper product recommendations have been made. These instructions should be followed closely to obtain the maximum service from the materials.

CAUTION: CONTAINS FLAMMABLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKMEN MUST WEAR FRESH AIR LINE RESPIRATORS. HYPERSENSITIVE PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRICAL EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSION HAZARDS EXIST, WORKMEN SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES.

Surface Preparation

Steel:

Immersion: A white metal blast in accordance with NACE #1 or SSPC-SP-63 Specifications.

Non-immersion: A commercial blast is acceptable in accordance with NACE #3 or SSPC-SP-6-63 Specifications.

Surface profile or anchor pattern should be 20-25% of the recommended dry film thickness.

Equipment

1. All spray equipment shall be thoroughly cleaned and free of old paint film and other contaminants.
2. Air supply shall be free of oils and water.
3. Airless spray equipment: 1800-2200 PSI liquid pressure. Tip size from .017" to .021"

Primer: Self priming on steel.

Thinning:

Suggested thinning at 77°F (25°C) is 10-15% based on coating volume using Heresite S-215 solvent. This coating is designed for airless systems and sprays well at viscosities of 45 seconds on a Zahn #4.

Application:

1. Do not apply if the temperature is less than 5°F (2°C) above the dew point.
2. Adjust the air pressure to approximately 60-75 pounds pot pressure. Adjust spray gun by first opening liquid valve and then adjust air valve to give approximately an 8-12 inch fan.
3. Holding gun perpendicular to the surface at a distance of 12 inches, apply a mist bonding pass.
4. Allow to flash off for several minutes, but not long enough to allow film to completely dry.
5. Apply 3 to 4 criss-cross multi passes maintaining a wet appearing film.
6. Repeat Step #5 until desired film thickness is obtained.
7. Allow 60 minutes with ventilation prior to introducing heat.
8. After the air dry period has elapsed, the temperature should be raised approximately 40°F (22°C) in increments of 30 minutes until the desired temperature is reached.

Bake Schedule

Intermediate Bake:

Metal Temperature to 175-200°F (93°C) for 10 to 12 minutes.

Final Bake:

Metal Temperature to 400°F (204°C) for 1 to 1 ½ hours.

Cleanup Solvent: S-215

SECTION 2

Multistage Centrifugal Blower Specifications

HSI 126 SERIES

MULTISTAGE CENTRIFUGAL BLOWER

SPECIFICATIONS



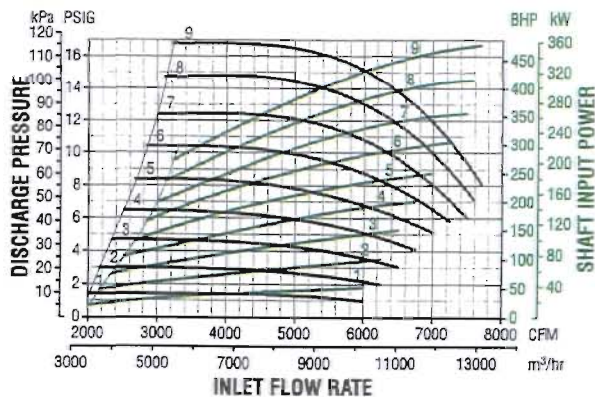
TECHNICAL DATA

Number of Stages	1 through 9
Inlet Connection	12" (304.8 mm) flange, ASA 125# drilling
Outlet Connection.....	12" (304.8 mm) flange, ASA 125# drilling
Operating Speed.....	3550 RPM (60 Hz), 2960 RPM (50 Hz)
Casing Pressure (max.).....	25 PSIG (1.76 kg/cm ²)
Seals (air).....	Labyrinth type
Bearings	Ball, 10-year minimum life per AFBMA L ₁₀ standard
Lubrication	Oil system
Impeller Diameter.....	25.00 in (635.0 mm)
Impeller Tip Speed	387 ft/s (118 m/s) @ 3550 RPM
First Critical Speed	4327 RPM (7-stage), 4620 RPM (8-stage)
Drive Type	Direct coupled, Inlet driven (standard) or Outlet driven
Shaft End	2.375 in (60.32 mm) diameter at coupling
Vibration Tolerance25 in/s (6.4 mm/s) ISO overall specification, 1.25 mils (0.03 mm) peak to peak
Rotor Balance.....	Individual impellers statically balanced and complete rotating assembly dynamically balanced

GENERAL PERFORMANCE

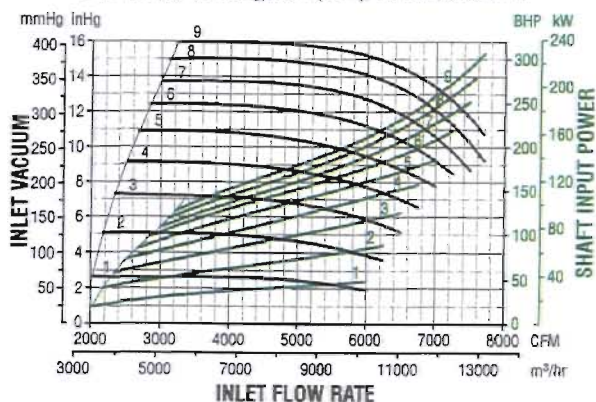
126 SERIES BLOWER

14.7 PSIA (101.4 kPa), 68°F (20°C), 36% RH, 3550 RPM



126 SERIES EXHAUSTER

29.92 inHg (760 mmHg), 68°F (20°C), 36% RH, 3550 RPM



MATERIALS OF CONSTRUCTION

Casing	Cast iron ASTM A48 grade 30
Bearing Caps & Housings ...	Cast iron ASTM A48 grade 30
Oil Reservoir	Cast iron ASTM A48 grade 30
Shaft	Carbon steel AISI 4140 (stainless steel available)
Impellers	Cast aluminum ANSI AA319 or Fabricated aluminum ANSI AA6061 with Cast Al AA356 Hub
Seals (air).....	Cast aluminum ANSI AA356

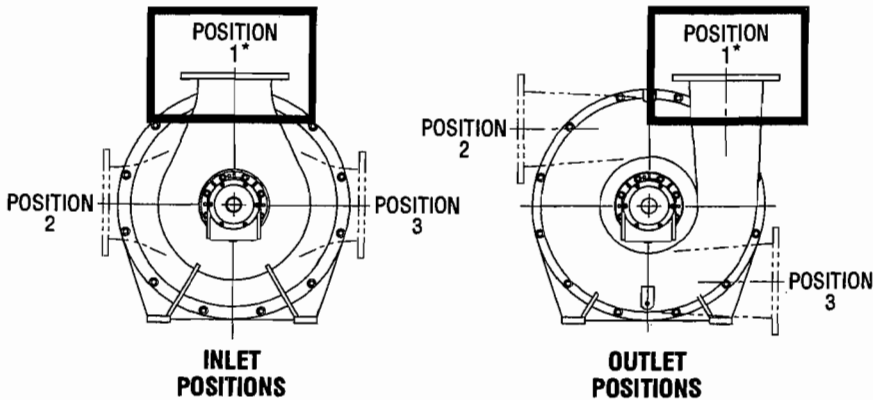
Interstage Baffle Rings	Stainless steel ASTM A240 304
Tie Rods75 in (19.1 mm) diameter, high strength steel ASTM A193-B7
Blower Base	Welded structural steel
Motor Pedestal	Welded steel plate
Joint Sealing Compound	RTV silicone
Base Isolation Pads.....	Neoprene rubber
Finish	Two-part epoxy ASA61 gray

Note: Specifications subject to change without notice.

126 SERIES MULTISTAGE CENTRIFUGAL BLOWER

INLET & OUTLET ORIENTATION OPTIONS

The orientation of the inlet and outlet is selectable from any of three different positions, as viewed when facing the exterior of the part:



*Standard configuration.

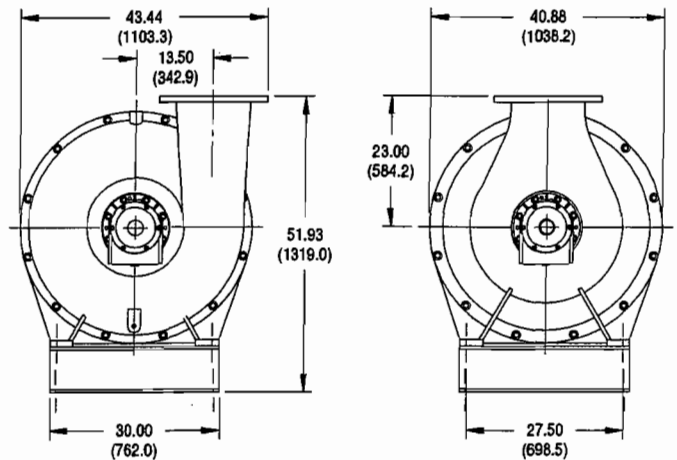
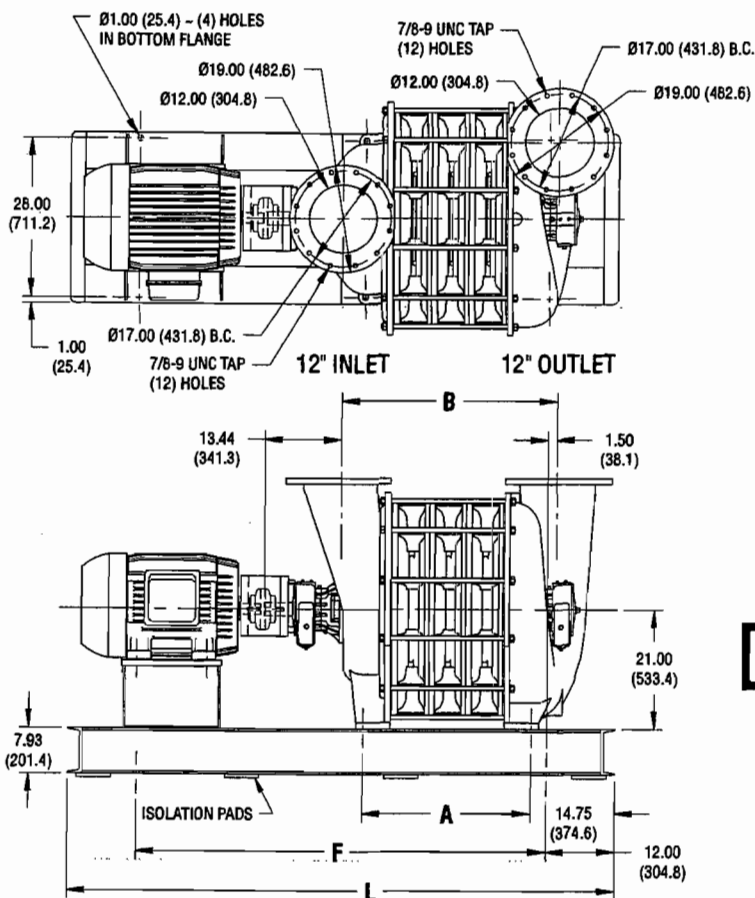
WEIGHT & INERTIA

Model	Weight*		WK ² †	
	lb	kg	lb-ft ²	kg-m ²
12601	2150	975	19	0.82
12602	2700	1225	37	1.57
12603	3350	1520	55	2.32
12604	3900	1769	73	3.07
12605	4450	2018	90	3.92
12606	5100	2313	108	4.57
12607	5500	2495	126	5.33
12608	5950	2699	144	6.08
12609	6463	2932	162	6.83

*Approximate weight for blower only.

† Inertia based on fabricated impellers.

GENERAL ARRANGEMENT



Model	Dimensions*	
	A	B
12601	10.00 (254)	18.25 (464)
12602	16.50 (419)	24.75 (629)
12603	23.00 (584)	31.25 (794)
12604	29.50 (749)	37.75 (959)
12605	36.00 (914)	44.25 (1124)
12606	42.50 (1080)	50.75 (1289)
12607	49.00 (1245)	57.25 (1454)
12608	55.50 (1410)	63.75 (1619)
12609	62.00 (1575)	70.25 (1784)

SEE DRAWING
WO30548-001

*Dimensions in inches and (millimeters) and are approximate. Do not use for construction purposes.

† Dimension may vary depending on motor frame size.



HOUSTON SERVICE INDUSTRIES, INC.
7901 Hansen Rd • Houston, Texas 77061-3428
Phone: 800-725-2291 • 713-947-1623
Fax: 713-947-6409
E-mail: hsi@hsiblowers.com
Web: www.hsiblowers.com

SECTION 3

Motors Specifications



Houston Service Ind

No.:

Date: 9/4/2009

Customer : SCS Energy

TECHNICAL PROPOSAL

Three-phase induction motor - Squirrel cage rotor

Product line : W21 Severe Duty and General Purpose - High Efficiency - Three-Phase : TEFC
(IP55) - Ball Bearings
Catalog Number : 20036EP3G447TS
List Price :

Notes:
WO30548

Performed by:

Checked:



Houston Service Ind

No.:

Date: 9/4/2009

DATA SHEET

Three-phase induction motor - Squirrel cage rotor

Customer : SCS Energy
 Product line : W21 Severe Duty and General Purpose - High Efficiency - Three-Phase : TEFC (IP55) - Ball Bearings

Frame : 447TS
 Output : 200 HP
 Frequency : 60 Hz
 Poles : 2
 Full load speed : 3570
 Slip : 0.83 %
 Voltage : 460 V
 Full load current : 223 A
 Locked rotor current : 1450 A
 Locked rotor current (I_L/I_n) : 6.5
 No-load current : 44.0 A
 Full load torque : 290 lb.ft
 Locked rotor torque : 170 %
 Breakdown torque : 250 %
 Design : B
 Insulation class : F
 Temperature rise : 80 K
 Locked rotor time : 32 s (hot)
 Service factor : 1.15
 Duty cycle : S1
 Ambient temperature : -20°C - +40°C
 Altitude : 1000 m
 Degree of Protection : IP55
 Approximate weight : 1874 lb
 Moment of inertia : 44.677 sq.ft.lb
 Noise level : 87 dB(A)

	D.E.	N.D.E.	Load	Power factor	Efficiency (%)
Bearings	6314 C3	6314 C3	100%	0.89	95.0
Regreasing interval	3604 h	3604 h	75%	0.88	94.5
Grease amount	27 g	27 g	50%	0.85	94.1

Notes:
 WO30548

Performed by:

Checked:



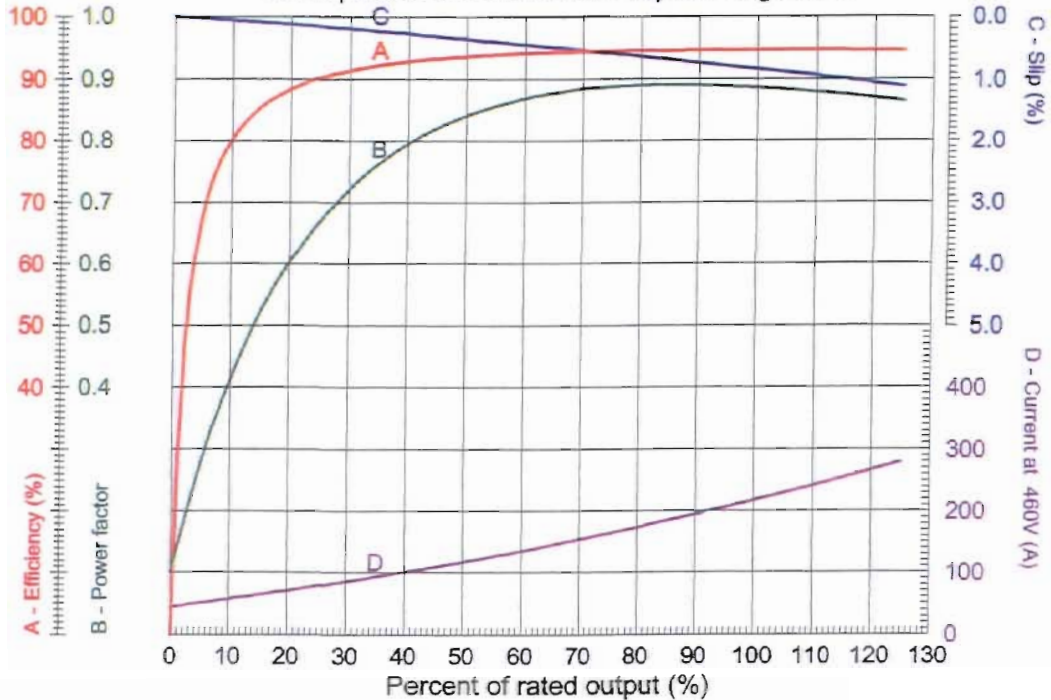
Houston Service Ind

No.:

Date: 9/4/2009

PERFORMANCE CURVES RELATED TO RATED OUTPUT

Three-phase induction motor - Squirrel cage rotor



Customer : SCS Energy
Product line : W21 Severe Duty and General Purpose - High Efficiency - Three-Phase : TEFC (IP55) - Ball Bearings

Output	: 200 HP	Locked rotor current (I _L /I _n)	: 6.5
Frame	: 447TS	Duty cycle	: S1
Full load speed	: 3570	Service factor	: 1.15
Frequency	: 60 Hz	Design	: B
Voltage	: 460 V	Locked rotor torque	: 170 %
Insulation class	: F	Breakdown torque	: 250 %
Full load current	: 223 A		

Notes:
WO30548

Performed by:

Checked:



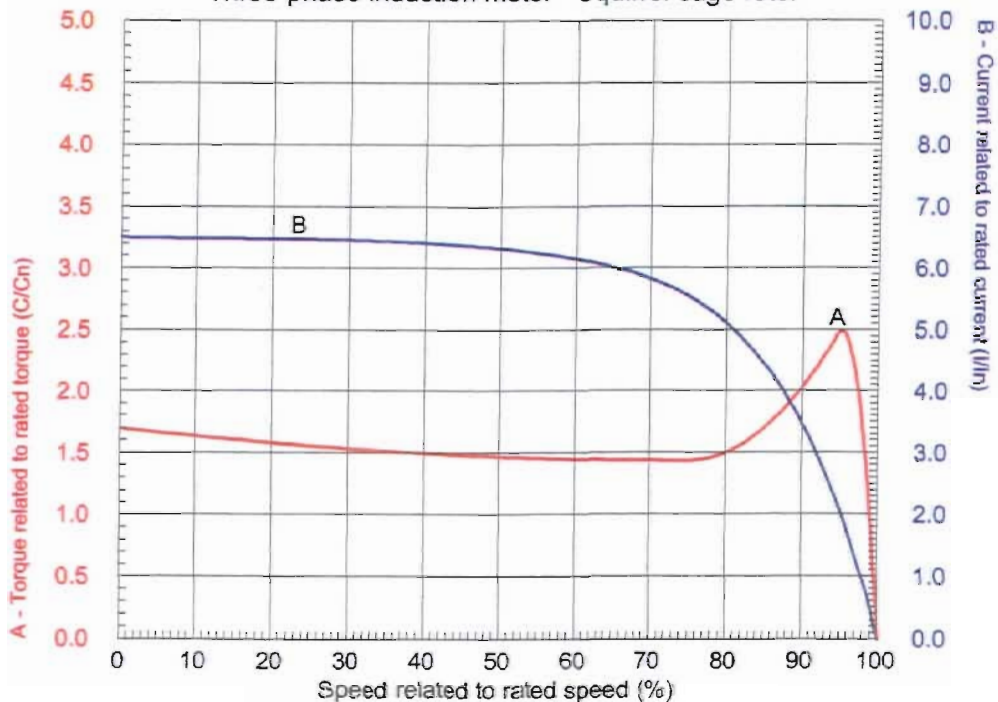
Houston Service Ind

No.:

Date: 9/4/2009

CHARACTERISTIC CURVES RELATED TO SPEED

Three-phase induction motor - Squirrel cage rotor



Customer : SCS Energy
Product line : W21 Severe Duty and General Purpose - High Efficiency - Three-Phase : TEFC (IP55) - Ball Bearings

Output	: 200 HP	Locked rotor current (I/Irn)	: 6.5
Frame	: 447TS	Duty cycle	: S1
Full load speed	: 3570	Service factor	: 1.15
Frequency	: 60 Hz	Design	: B
Voltage	: 460 V	Locked rotor torque	: 170 %
Insulation class	: F	Breakdown torque	: 250 %
Full load current	: 223 A		

Notes:
WO30548

Performed by:

Checked:

1 2 3 4 5 6 7 8

A

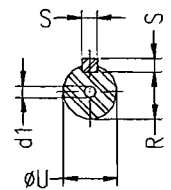
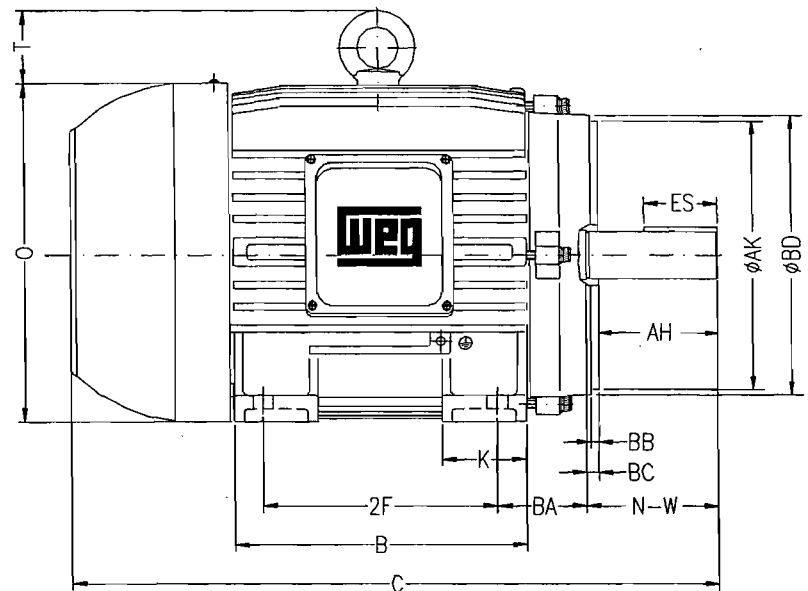
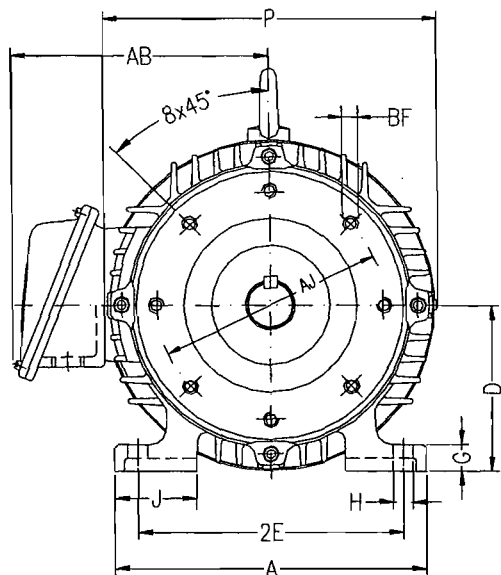
B

C

D

E

F



Notes: WO30548

Performed by:

Checked:

Customer: SCS Energy

W21 Severe Duty and General Purpose - High Efficiency - Three-Phase :

TEFC (IP55) - Ball Bearings

Three-phase induction motor
Frame 447TS - IP55

9/4/2009



2E 18.000	2F 20.000	H 0.807	BA 7.500	A 21.496
B 23.622	C 43.549	D 11.000	G 1.654	J 3.937
K 5.591	O 22.713	P 23.622	T 3.543	ES 3.000
S 0.625	N-W 4.750	U 2.375	R 2.021	AB 19.370
AA 2 X NPT 3	d1 DUNC 3/4-10	Flange FC-355	AJ 14.000	AK 16.000
BD 17.913	BF UNC 5/8"x11	BB 0.250	BC 0.250	AH

SECTION 4

Accessories Specifications

REX OMEGA® COUPLING
NO OTHER COUPLING CAN OFFER
ALL THESE FEATURES & BENEFITS



Features

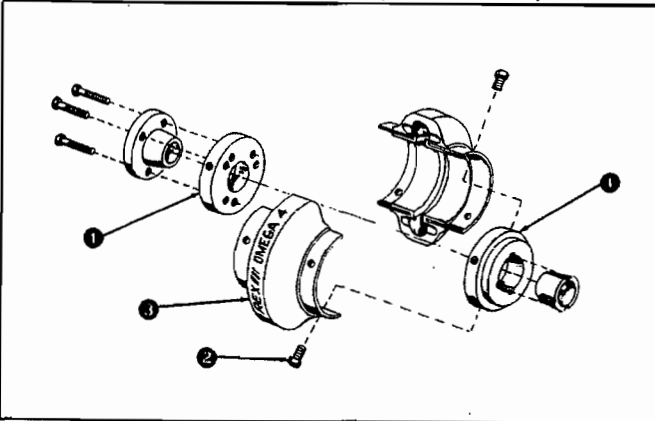
- Split-In-Half Flex Element Design
- Polyurethane Flex Element
- Torsionally Soft
- High Misalignment Capacity
- Visual Inspection
- Interchangeable Hubs
- Adjustable Spacer

Benefits

- Easy replacement without moving the hubs or connected equipment
- No lubrication required, excellent chemical resistance
- Protects equipment by cushioning shock loads and torsional vibration
- Accommodates unavoidable misalignment with low reactionary forces
- No need for coupling disassembly to inspect
- Standard and spacer coupling hubs are identical
- One spacer coupling size can accommodate different shaft separations

Rex Omega Standard Coupling

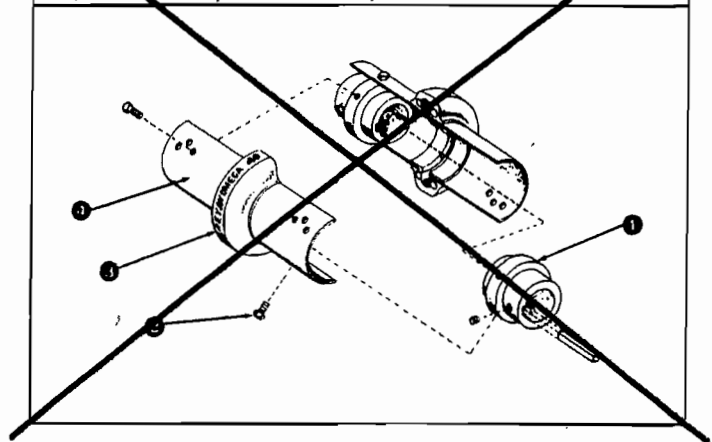
Standard "close coupled" design available in 15 sizes covering applications up to 425,250 in-lbs torque and bores up to 9.00".



- ① Reversible hubs are available from "stock" with rough bore, finished straight bore, or bored to accept compression bushings. Consult factory for tapered bores, splines and other special bore requirements.
- ② Premium grade capscrews with self-locking patches. Also available in stainless steel.

Rex Omega Spacer Coupling

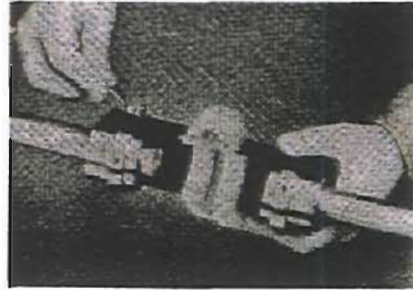
Spacer design available in 12 sizes covering applications up to 49,375 in-lbs torque and bores up to 6.00".



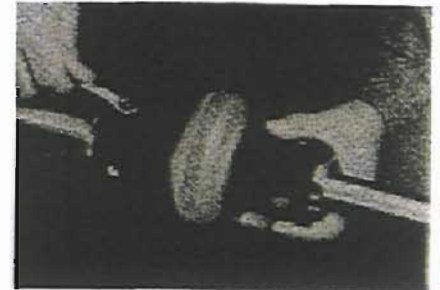
- ③ Tough, two-piece urethane flex element transmits torque, accepts misalignment, reduces vibration and noise and is not seriously affected by petroleum products or most chemicals.
- ④ Formed metal shoes with optional hub mounting patterns satisfy ANSI, DIN and ISO spacer requirements. Shoes are coated to help resist corrosion. Available in stainless steel.



Mount one hub to shaft, leave other hub loose for adjustment of spacing.

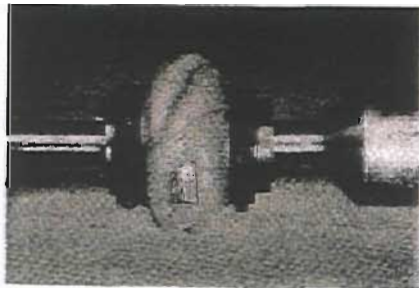


Place half of the Omega element around hubs and secure with self-locking capscrews. Omega element will space the other hub. Now secure the other hub.



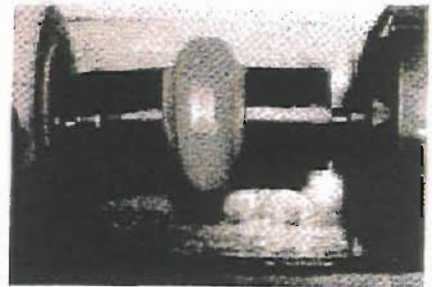
Mount other half of the Omega element. Tighten all capscrews to recommended torques below and you're done! Refer to the installation instructions for further details.

Tested Tough



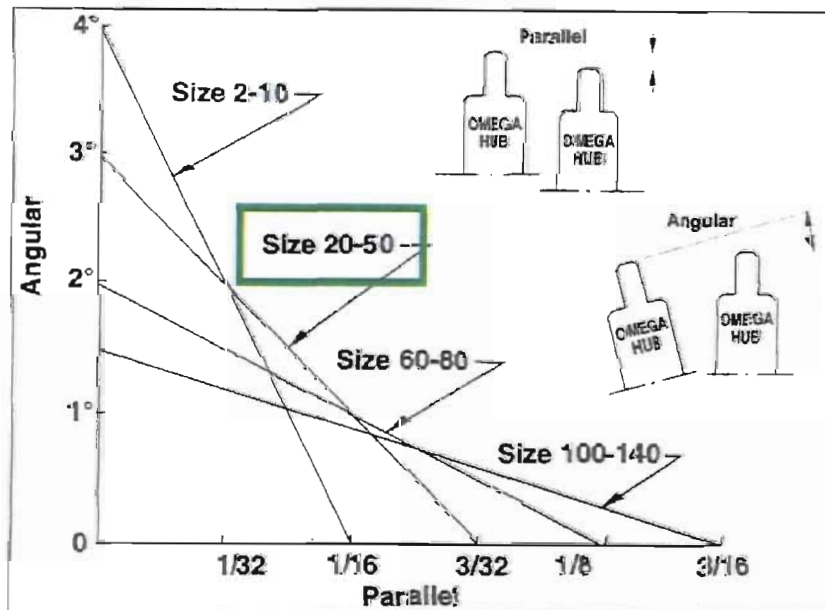
Severe static testing (5 x rating) shows element flexibility, rugged design, and positive adhesive bond to the metal shoes.

Rigorous testing demonstrates that the Rex Omega coupling protects connected equipment from the damaging effects of misalignment, vibration, and gross overload. Where other coupling designs might allow equipment damage, the super flexible element of Rex Omega couplings minimizes the reactionary forces on equipment bearings under severe misalignment conditions and reduces the effects of excessive shock overloads.



Demonstrates coupling's ability to accept severe misalignment.

Omega Coupling Allowable Misalignment



Note:

Any combination of parallel and angular misalignment which falls under the triangle will not cause a premature fatigue failure of the flexible element in normal use.

Important Note:

Coupling alignment is directly related to smooth, efficient equipment operation. Care should be taken for best possible alignment.

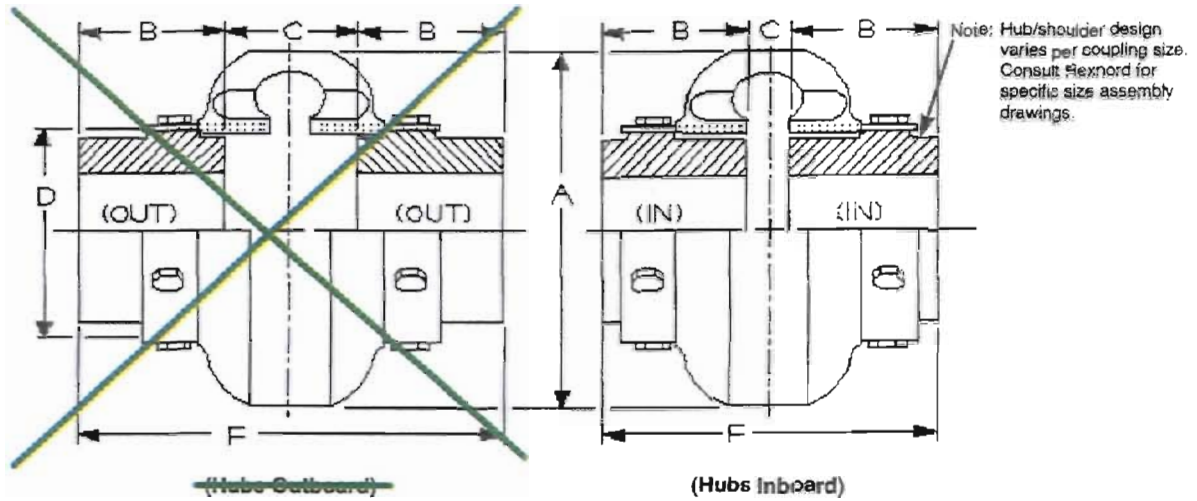
—IMPORTANT— RECOMMENDED CAPSCREW TORQUE FOR PROPER INSTALLATION

Cplg. Size	Torque — Dry	
	In. Lbs.	Ft. Lbs.
2	204	17
3		
4		
5		
10		
20	360	30
30		
40		
50		
60	900	75
70		
80		
100	3240	270
120		
140	7080	590

NOTE: Capscrews have self-locking patches which should not be reused more than twice. Capscrews can be further used if a thread locking adhesive is applied.

Do NOT Lubricate Capscrew Threads

OMEGA® STANDARD COUPLING WITH STRAIGHT BORE HUBS



Specification Data With Straight Bore Hubs

Standard Omega No.	Recom. Max. Bore (In.) ⓐ	HP/100 RPM ⓑ	Continuous Torque (In. Lbs.) ⓑ	Max. RPM	Dimensions In Inches							Weight (Lb.) ⓑ
					A	B	C		D	F		
							(In.)	(Out)		(In.)	(Out)	
E2	1.13	.30	190	7500	3.50	.94	1.34	1.90	1.85	3.22	3.78	1.2
E3	1.38	.58	365	7500	4.00	1.50	.81	1.31	2.32	3.81	4.31	2.4
E4	1.63	.88	550	7500	4.56	1.69	.44	1.31	2.60	3.81	4.69	3.0
E5	1.88	1.48	925	7500	5.38	1.75	.81	1.81	3.13	4.31	5.31	5.4
E10	2.13	2.30	1450	7500	6.38	1.88	.56	1.81	3.65	4.31	5.56	8.2
E20	2.38	3.65	2300	6600	7.25	2.06	.50	2.38	4.48	4.62	6.50	13.0
E30	2.63	5.78	3650	5000	8.25	2.31	.56	2.44	5.42	5.16	7.86	21.2
E40	3.38	8.85	5500	5000	9.50	2.50	.56	2.68	6.63	5.56	7.68	35
E50	4.00	12.14	7650	4200	11.00	2.75	.62	3.28	8.12	6.42	9.88	54
E60	4.00	19.84	12,500	3800	12.50	3.25	.69	3.44	8.75	7.19	9.94	72
E70	4.50	35.12	22,125	3600	14.00	3.62	.75	3.75	9.25	8.00	11.00	86
E80	6.00	62.70	39,500	2000	16.00	4.87	.75	5.00	11.25	10.50	14.75	170
E100	6.75	135	85,050	1900	21.00	5.50	1.75	3.75	14.13	12.75	14.75	244
E120	7.50	270	170,100	1800	25.00	6.00	2.25	4.88	17.63	14.24	16.88	425
E140	9.00	540	340,200	1500	30.00	7.00	3.00	5.00	20.88	17.00	19.00	746

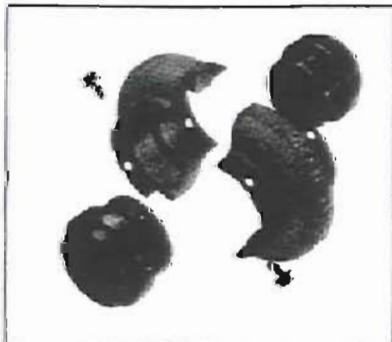
- ⓐ Standard hubs. See page E-16 for steel hub maximum bores.
- ⓑ Service factor = 1.0
- ⓒ With maximum bore standard hubs.

• Split-In-Half Flex Element

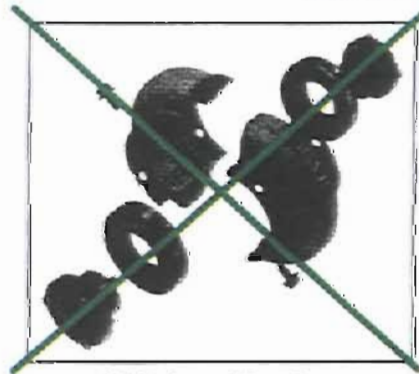
Allows disassembly and replacement without disturbing hubs or connected equipment.

• Reversible Hubs

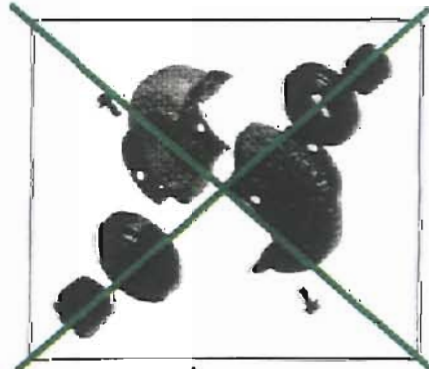
Accommodates different shaft spacing requirements, and allows compression bushings to be installed from either side of the hub.



Straight Bore Hubs



QD Hubs and Bushings



TAPER-LOCK Hubs and Bushings

Note: Dimensions subject to change. Certified drawings of ordered material furnished on request.

Flare Unit Emissions Information

Drawings and Specification

International Headquarters
P.O. Box 21220
Tulsa, Oklahoma 74121-1220
918/234-2961

Brandy S. Johnson, P.E.
Sr. Applications Engineer

DATE: September 19, 2007
TO: Niki Wuestenberg
COMPANY: Allied Waste Industries
REFERENCE: Standard Emissions for Elevated Flares

Niki,

For all elevated flares supplied by John Zink, the guaranteed emissions are as listed below. These numbers are considered the industry standard and are based on EPA 40 CFR 60.18 for industrial flares.

The emissions expected for an elevated flare is as follows:

Emissions for Elevated ZEF Landfill Flare⁽¹⁾

Overall Destruction Efficiency ⁽²⁾	98%
NO _x , lb / MMBTU ⁽³⁾	0.068
CO, lb / MMBTU ⁽⁴⁾	0.37

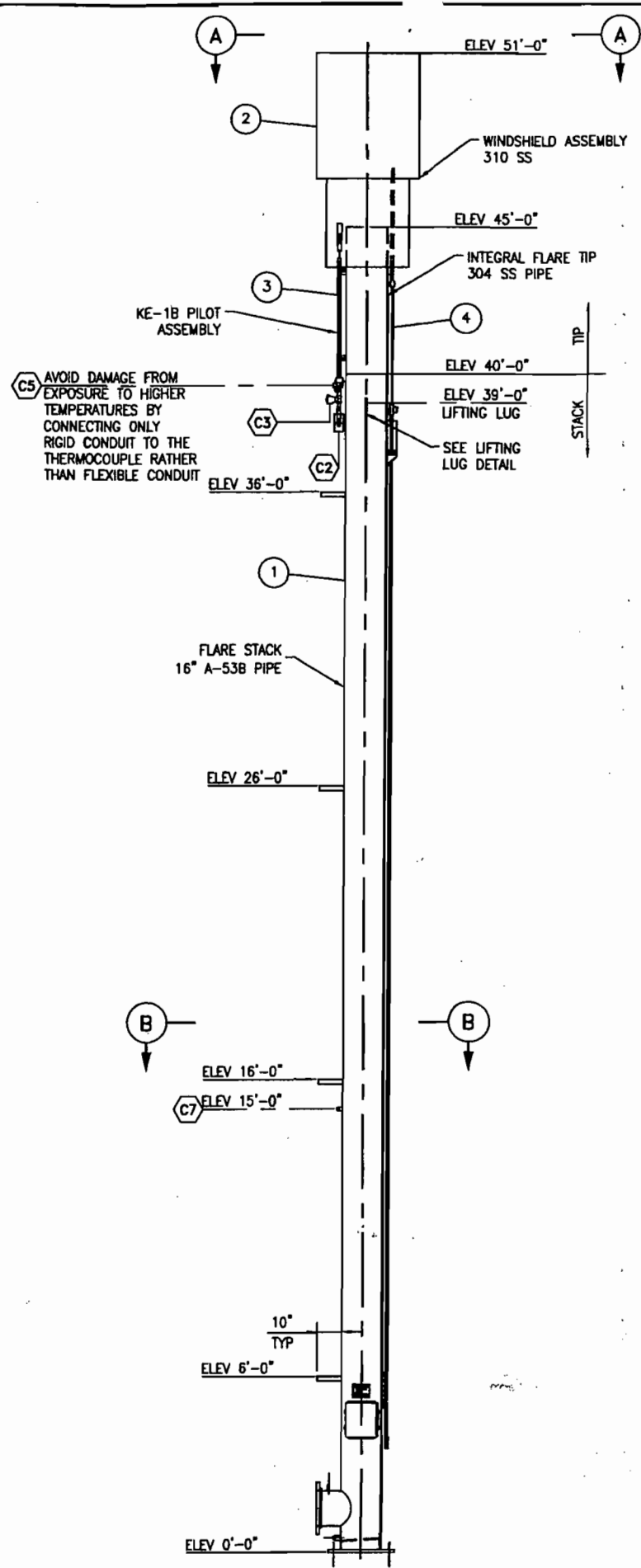
⁽¹⁾ Emissions and destruction efficiency stated are based on EPA 40 CFR 60.18 and AP-42 Supplement D

⁽²⁾ Typical sulphur containing compounds are expected to have greater than 98% oxidation efficiency.

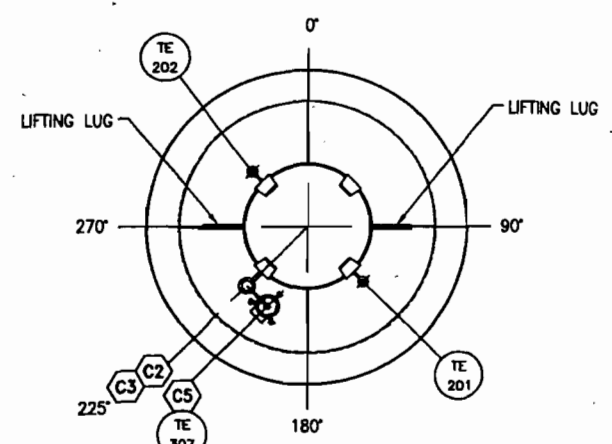
⁽³⁾ Excludes NO_x from fixed nitrogen.

⁽⁴⁾ Excludes CO contribution present in landfill gas.

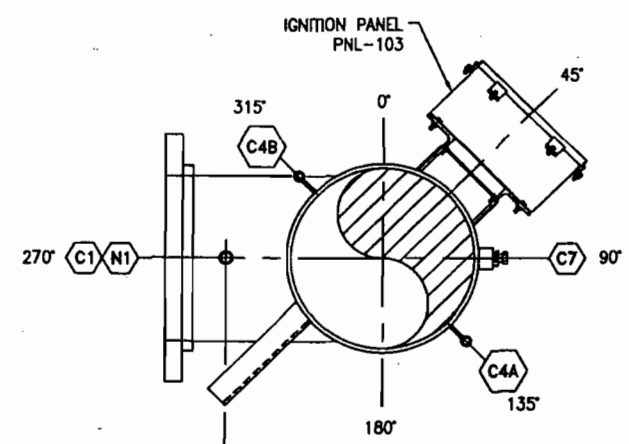
NOTE: Destruction efficiency, NO_x, and CO emissions shown are valid for combustion of landfill gas only.



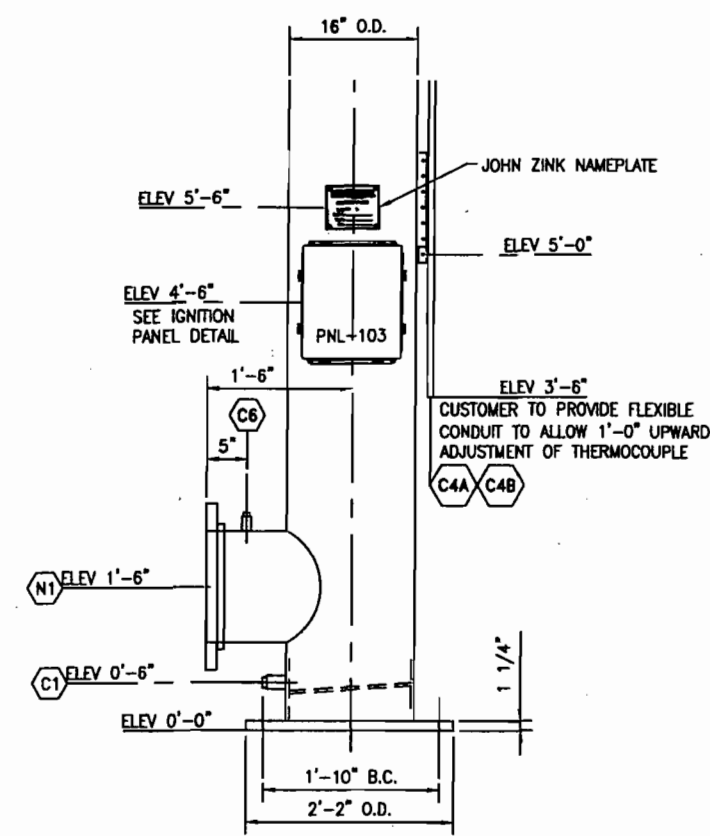
ELEVATION
MK: D-701-1
NOT TRUE ORIENTATION



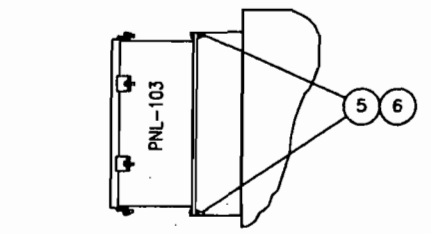
VIEW "A-A"
TRUE ORIENTATION



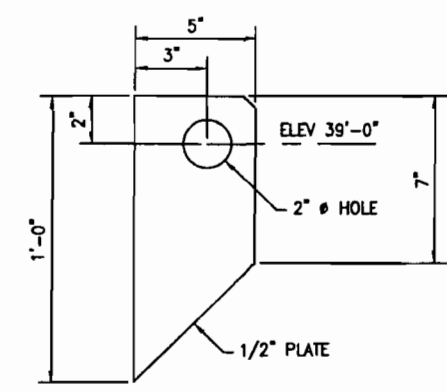
SECTION "B-B"
TRUE ORIENTATION



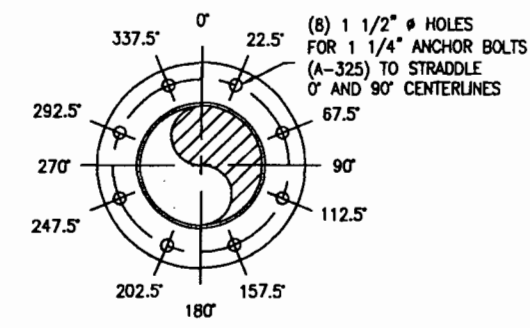
PARTIAL ELEVATION



IGNITION PANEL DETAIL
SHIPPED LOOSE FOR FIELD INSTALLATION



LIFTING LUG DETAIL
TYPICAL TWO PLACES



FOUNDATION BOLT PATTERN

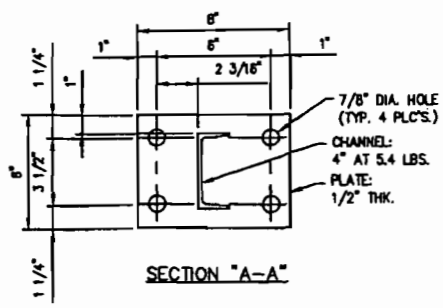
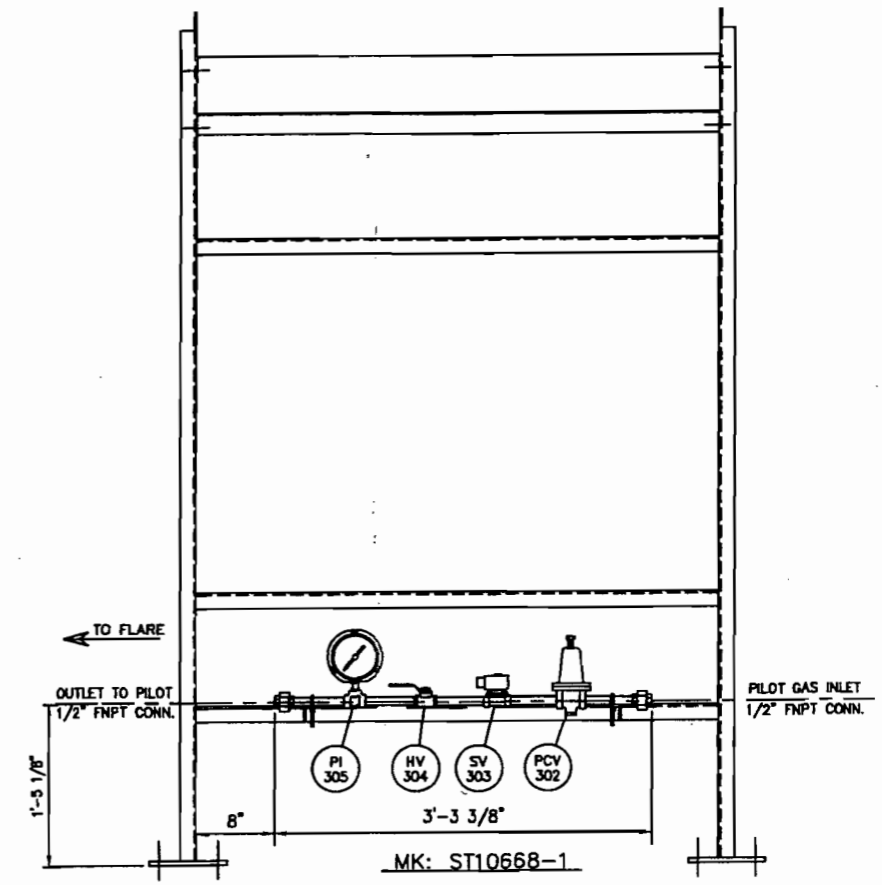
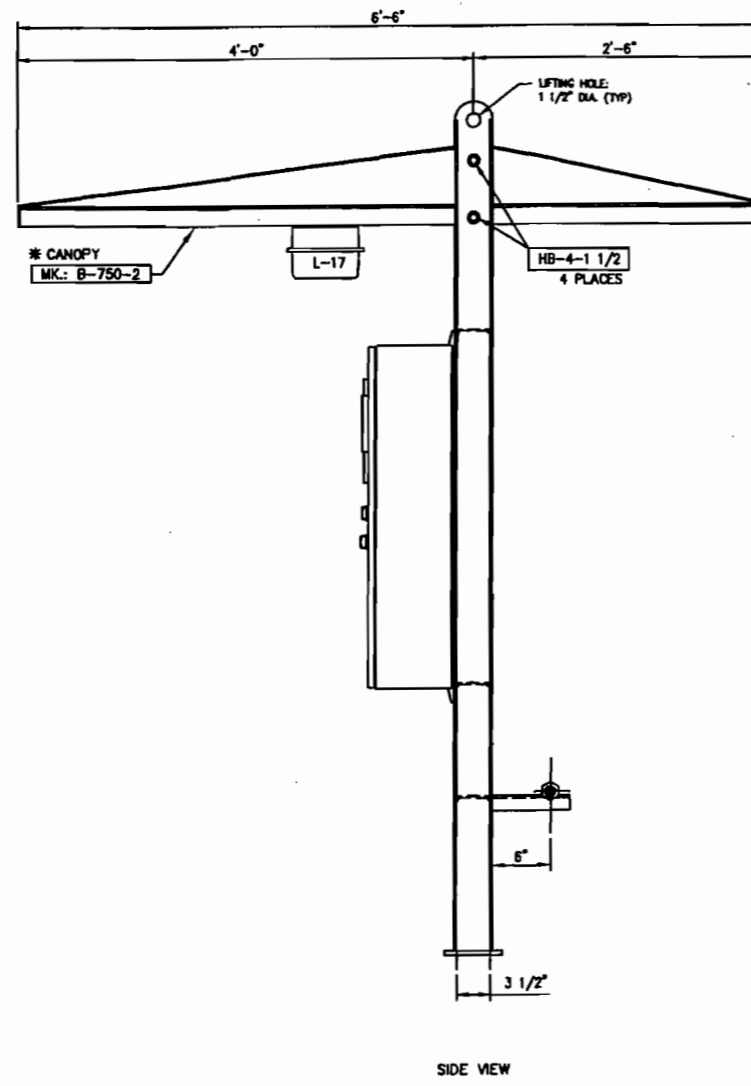
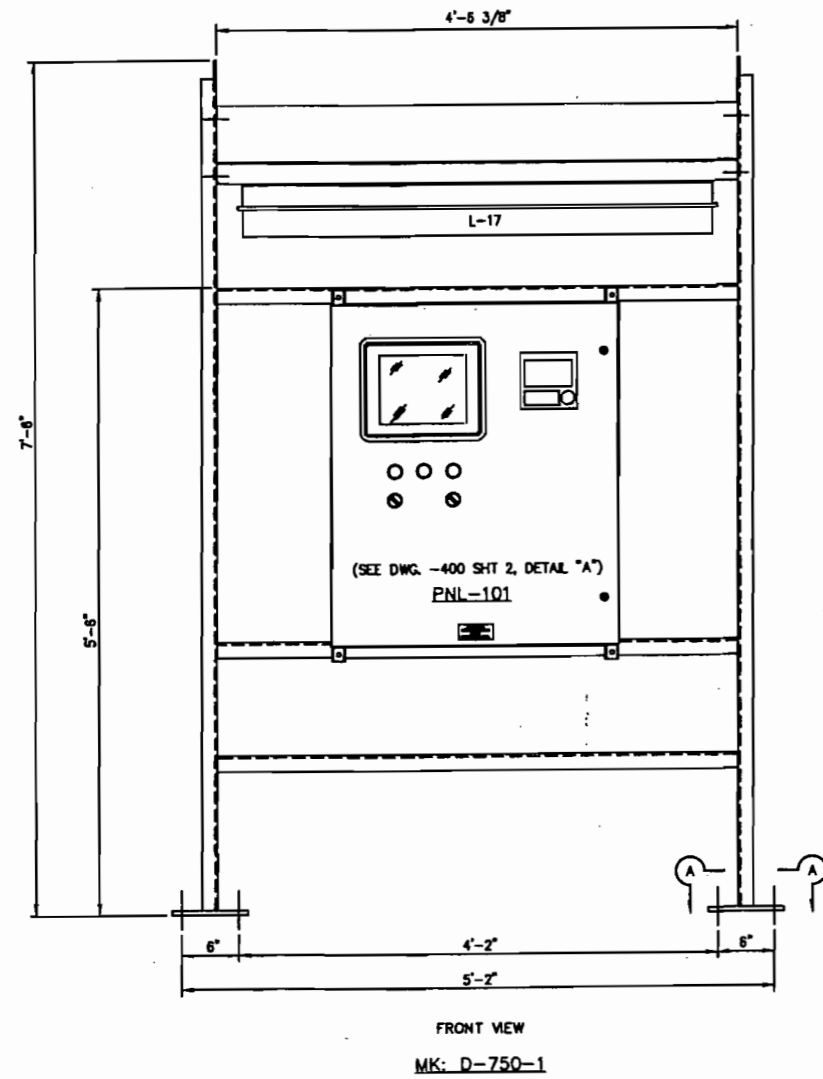
PARTS LIST				
ITEM	QTY	DESCRIPTION	MK: NO	MATERIAL
1	1	ELEVATED ZEF FLARE	D-701-1	
2	1	WINDSHIELD ASSEMBLY	ST10396	
3	1	KE-1B PILOT ASSEMBLY	D-302-1	
4	2	MAIN FLAME THERMOCOUPLE	TE-201/TE-202	
5	4	BOLT, HEX HD: 1/4" x 1" LG (PLATED)	HB-2-1	A-307
6	4	NUT, REG HEX: 1/4"-20NC (PLATED)	HN-2	A-307

NOZZLE LEGEND				
MK	QTY	DESCRIPTION		
N1	1	GAS CONNECTION - 1/4" 150# F.F.		
C1	1	DRAIN - 1" 3000# FNPT WITH PLUG		
C2	1	PILOT GAS CONNECTION - 1/2" FNPT		
C3	1	PILOT CONDUIT CONNECTION - 1/2" FNPT		
C4A	1	THERMOCOUPLE CONDUIT CONNECTION - 1/2" FNPT		
C4B	1	THERMOCOUPLE CONDUIT CONNECTION - 1/2" FNPT		
C5	1	PILOT THERMOCOUPLE CONDUIT CONNECTION - 3/4" FNPT		
C6	1	TEMPERATURE CONNECTION - 1/2" FNPT WITH PLUG		
C7	1	FLOW METER CONNECTION - 1" FNPT WITH PLUG		

DESIGN DATA				
WINDLOAD (PER ASCE 7-95)			120 M.P.H.	
SEISMIC (PER UBC-1994)			ZONE 4	
SHEAR @ BASE			2,600 LB	
MOMENT @ BASE			73,000 LB-FT	
DEADLOAD			3,600 LB	
SHELL DESIGN TEMPERATURE			150° F	
CORROSION ALLOWANCE			0.0	

- GENERAL NOTES**
- TAG NUMBERS TO BE PRECEDED BY JOHN ZINK SALES ORDER NUMBER.
 - FLARE ASSEMBLY IS NOT TO BE USED AS AN ANCHOR POINT FOR CUSTOMER PIPING.
 - PRE-TENSION ANCHOR BOLTS BY THE "TURN OF THE NUT" METHOD/AISC.
 - BOLT HOLES TO STRADDLE NORMAL CENTER LINES UNLESS NOTED.
 - FINISH EXTERIOR CARBON STEEL ONLY. SANDBLAST PER SSPC-SP-6 AND PRIME WITH SHERWIN WILLIAMS ZINC CLAD II PLUS #B69VZ12/B69VZ15/B69D11 (3-4 MILS D.F.T.)

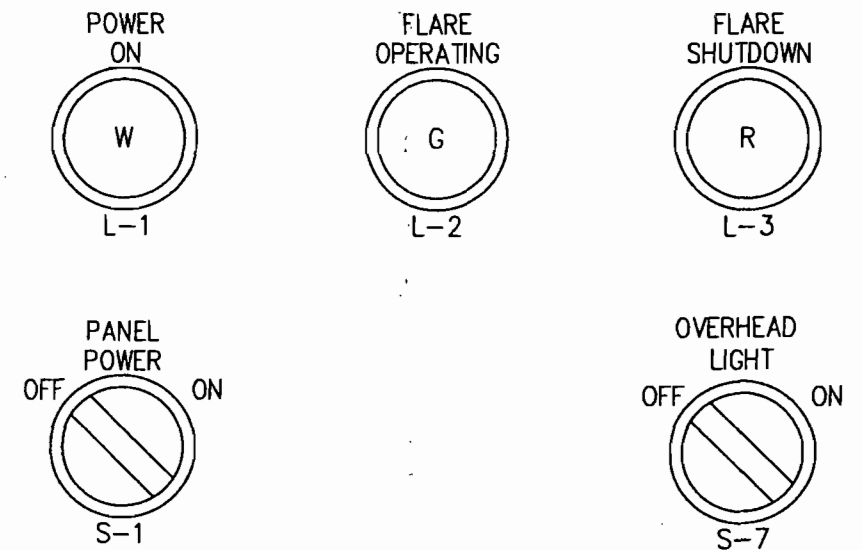
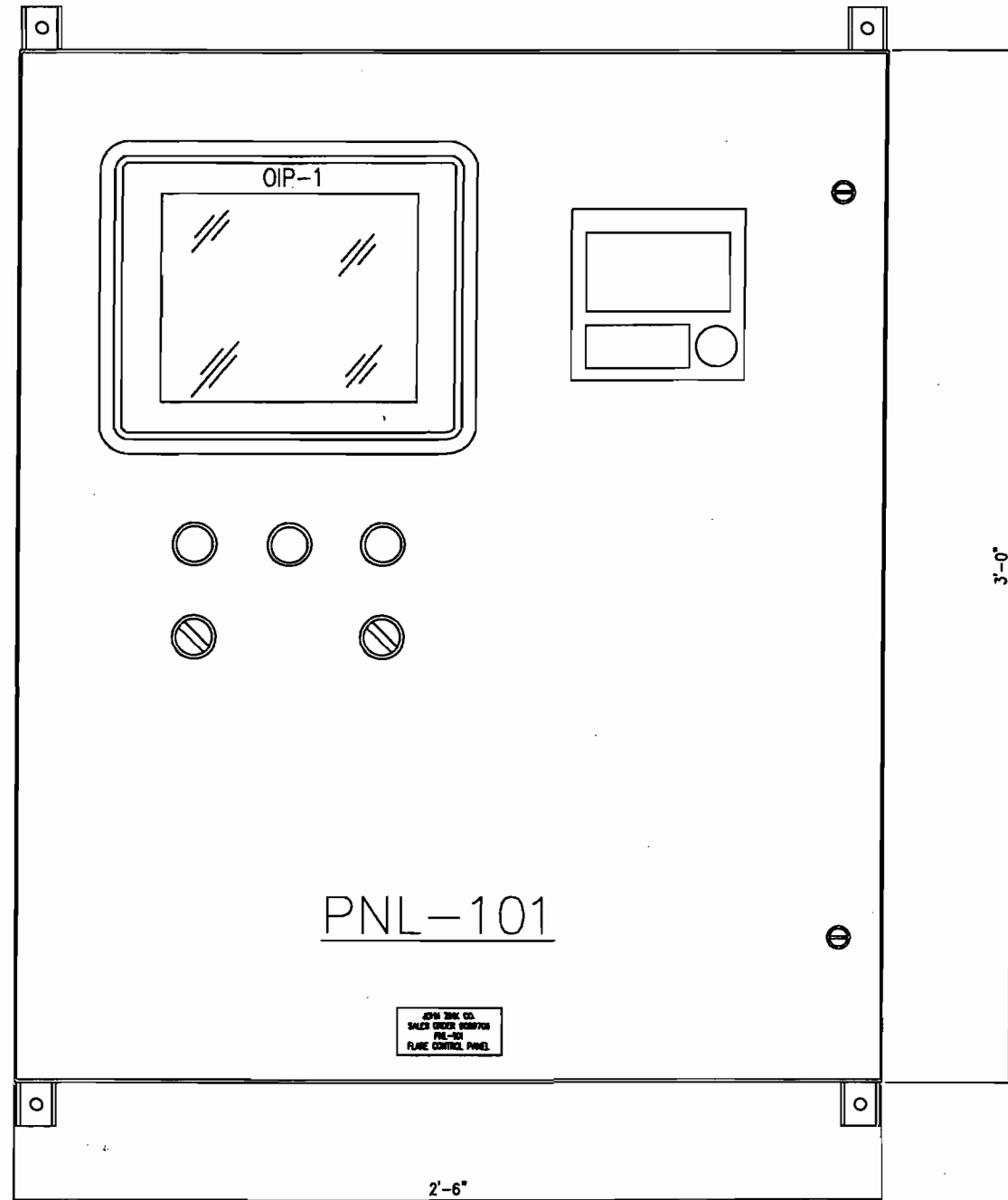
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FOR:	SCS ENERGY		JOHN ZINK COMPANY LLC PARTS AND SERVICE, CALL 1-800-755-4252 FAX (918) 234-1968		
USER:	ORANGE COUNTY LANDFILL		ELEVATED ZEF BIOGAS FLARE 16" x 45" H.		
JOB SITE:	ORLANDO, FL.		MODEL ZEF1645		
S.O. NO.	BF-9099706	DR.	jmw	DATE: 9-11-09	
P.O. NO.	06-4075	CK.	SAW	DATE: --	
NO.	REVISION DESCRIPTION	BY	CK.	APP.	DATE



GENERAL NOTES

1. PIPING & RACK TO BE CLEANED & PAINTED PER SSPC-SP6
PRIMER: 3-4 MILS SHERWIN WILLIAMS RECOATABLE EPOXY PRIMER (#867H5/867V5)
FINISH: 2.5-3.0 MILS SHERWIN WILLIAMS KEM-400 ENAMEL, (ARCTIC BLUE).
2. AREA CLASSIFICATION: ~~NON-HAZARDOUS~~.
3. * SHIP LOOSE FOR FIELD INSTALLATION.

NO.				REVISION DESCRIPTION				BY				CHK				APP.				DATE			
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FOR: SCS ENERGY				USER: ORANGE COUNTY LANDFILL				JOB SITE: ORLANDO, FL				S.O. NO. BF-8099706											
P.O. NO. 06-4075				DR. RPJ				DATE: 9-5-09				<p>JOHN ZINK COMPANY LLC PARTS AND SERVICE, CALL 1-800-755-4252 FAX (918) 234-1988</p>											
PANEL RACK ASSEMBLY				FOR AN ELEVATED ZEF FLARE SYSTEM				DRAWING NUMBER				REV. 0											
D-F-9099706-400				SCALE NONE				1 of 2															



DETAIL "A-A"

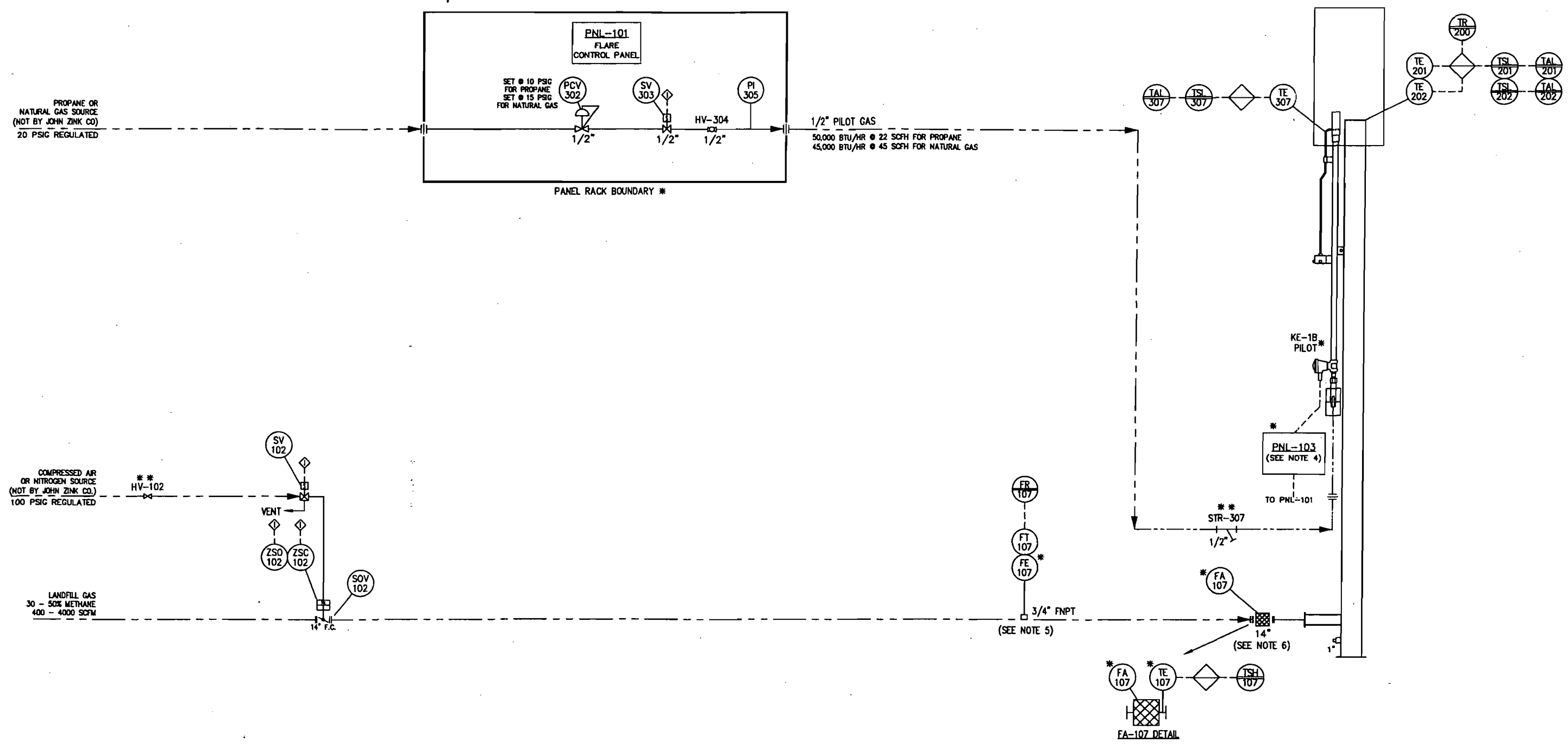
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NO.	REVISION DESCRIPTION	BY	CHK.	APP.	DATE	APP.	DATE	DATE	SCALE	2 of 2
									NONE	

FOR: SCS ENERGY	<p>JOHN ZINK COMPANY LLC PARTS AND SERVICE, CALL 1-800-755-4252 FAX (918) 234-1968</p>
USER: ORANGE COUNTY LANDFILL	
JOB SITE: ORLANDO, FL	
S.O. NO. BF-9099708	PANEL DETAIL (PNL-101) FOR AN ELEVATED ZEF FLARE SYSTEM
P.O. NO. 06-4075	
DR. RPJ DATE: 9-5-08	CERTIFIED
CK. JB DATE:	DRAWING NUMBER D-F-9099706-400
APP. JB DATE:	REV. 0

File Name: c:\active\doc_3\00 documents to be printed or issued\9099706\400a20.dwg Plot Date: 9/17/2009 8:45 AM

* ELEVATED
ZEF FLARE
16" O.D. x 45' O.A.H.



PROpane OR NATURAL GAS SOURCE (NOT BY JOHN ZINK CO.)
20 PSIG REGULATED

COMpressed AIR OR NITROGEN SOURCE (NOT BY JOHN ZINK CO.)
100 PSIG REGULATED

LANDFILL GAS
30 - 50% METHANE
400 - 4000 SCFM

LEGEND

- | | | | |
|--|---|--|---|
| | FIELD MOUNTED INSTRUMENT | | LOCATED IN THE PLC |
| | REMOTE PANEL MOUNTED
NORMALLY ACCESSIBLE TO OPERATOR | | INTERLOCK TO/FROM CONTROL PANEL |
| | LOCAL PANEL MOUNTED
NORMALLY ACCESSIBLE TO OPERATOR | | PIPE & FITTINGS BY OTHERS
(NOT BY JOHN ZINK CO.) |
| | REMOTE SUB-PANEL MOUNTED
NORMALLY INACCESSIBLE TO OPERATOR | | ELECTRICAL INTERCONNECTIONS |
| | LOCAL SUB-PANEL MOUNTED
NORMALLY INACCESSIBLE TO OPERATOR | | INSTRUMENT CONTROL AIR LINE |
| | | | PIPE & FITTINGS BY JOHN ZINK CO. |

NOTES

- * - SUPPLIED BY JOHN ZINK CO. AND SHIPPED LOOSE FOR FIELD INSTALLATION.
- ** - SUPPLIED BY OTHERS (NOT BY JOHN ZINK CO.)
- ELECTRICAL AREA CLASSIFICATION: NON-HAZARDOUS
- IGNITION TRANSFORMER IS INSIDE PNL-103 AND MOUNTED ON FLARE.
- LOCATE FLOW ELEMENT WITH 10 DIAMETERS OF STRAIGHT UNDISTURBED FLOW UPSTREAM AND 5 DIAMETERS DOWNSTREAM.
- LOCATE FLAME ARRESTER WITH 5 DIAMETERS OF STRAIGHT UNDISTURBED FLOW UPSTREAM.
- THERMOCOUPLE WIRE AND IGNITION WIRE SUPPLIED BY JOHN ZINK CO. AND SHIPPED LOOSE FOR FIELD INSTALLATION.
- PANEL PNL-101 IS TO BE LISTED AS INDUSTRIAL CONTROL PANEL

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				FOR: SCS ENERGY			
				USER: ORANGE COUNTY LANDFILL			
				JOB SITE: ORLANDO, FL			
				S.O. NO. BF-9099706			
				P.O. NO. 06-4075			
				DR. RPJ DATE: 9-4-09			
				CK. JB DATE:			
				APP. JB DATE:			
				DATE:			
				CERTIFIED			
				DRAWING NUMBER D-F-9099706-150			
				SCALE NONE			
				1 of 1			
				REV. 0			
NO.	REVISION DESCRIPTION	BY	CHK.	APP.	DATE	APP.	DATE

NOTES:

1. ALL WIRING TO BE AS FOLLOWS UNLESS INDICATED OTHERWISE:
WIRE SIZING PER NEC

MIN. 18 GA./600V/THHN OR THWN FOR CONTROL
MIN. 18 GA./TWO CONDUCTOR SHIELDED FOR SIGNAL




2. MINIMUM FIELD CONDUIT REQUIRED:

- (1) THERMOCOUPLES
- (1) POWER - 120V
- (1) CONTROL SIGNAL

3. TERMINAL BLOCKS TO BE ARRANGED IN NUMERICAL ORDER.

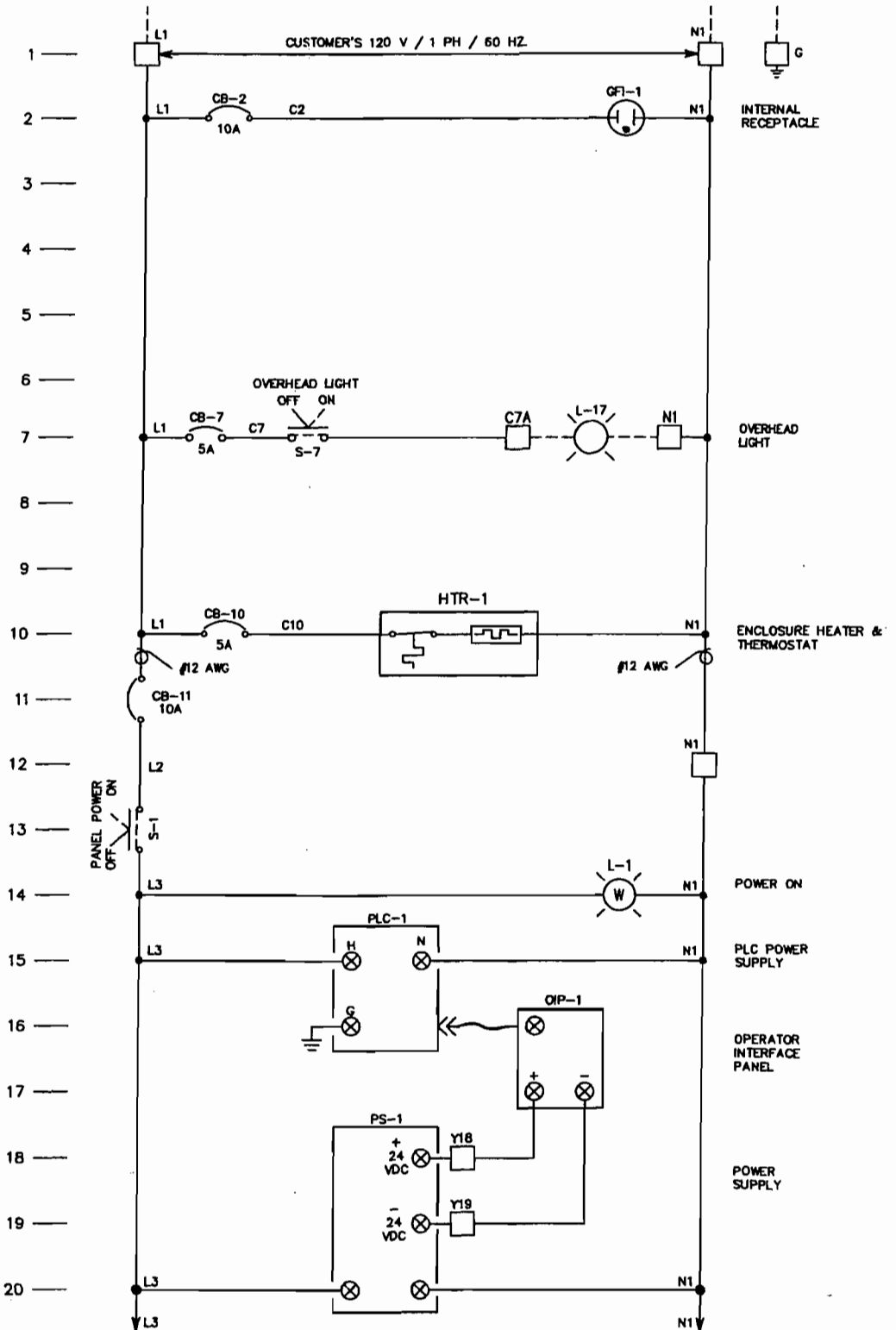
4. PROCESSOR LOGIC PROGRAM C8099706

5. WIRING LEGEND:


-  TERMINAL IN PANEL MOUNTED INSTRUMENTS.
-  TERMINAL IN FLARE CONTROL PANEL PNL-101
-  TERMINAL IN IGNITION PANEL PNL-103

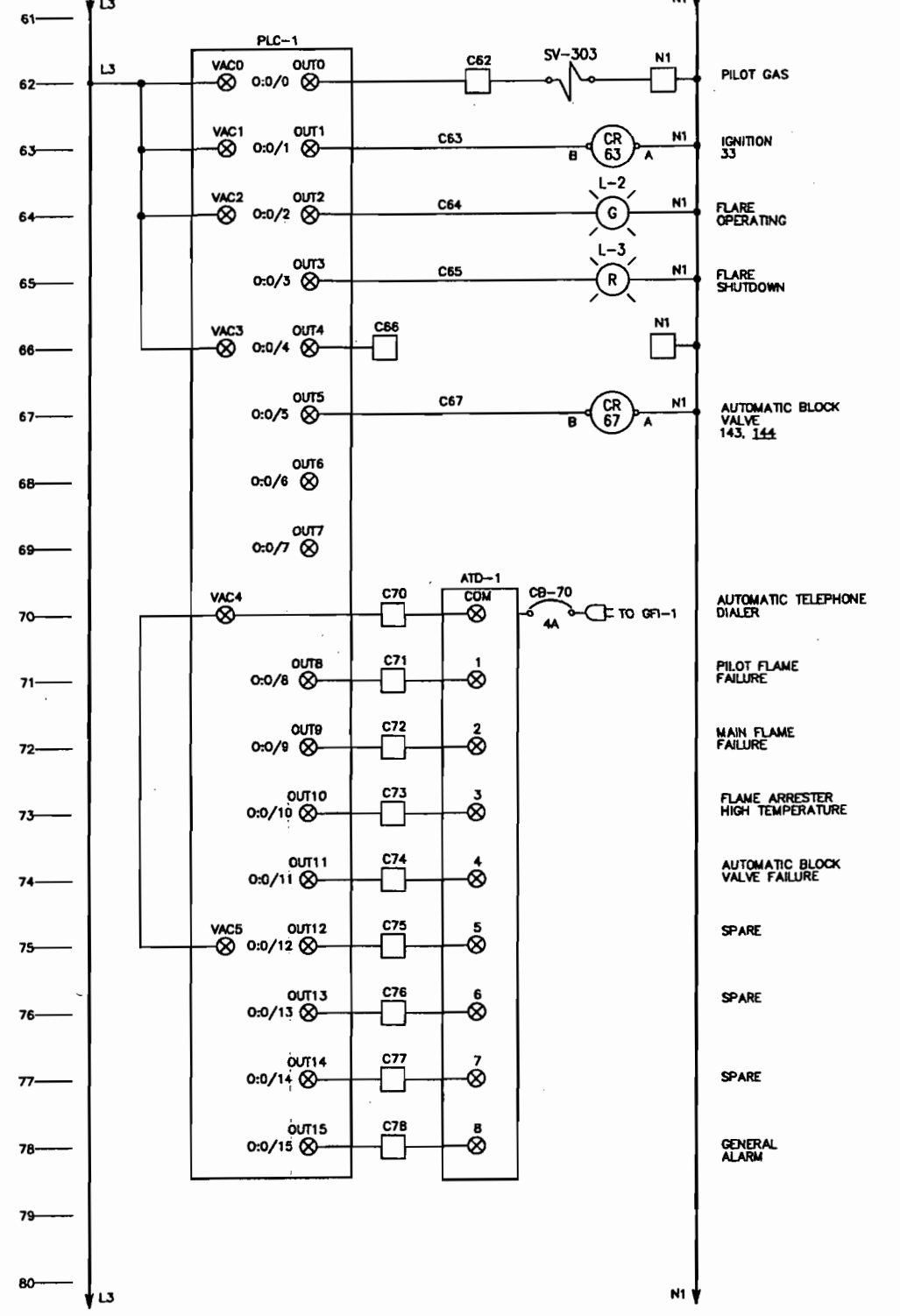
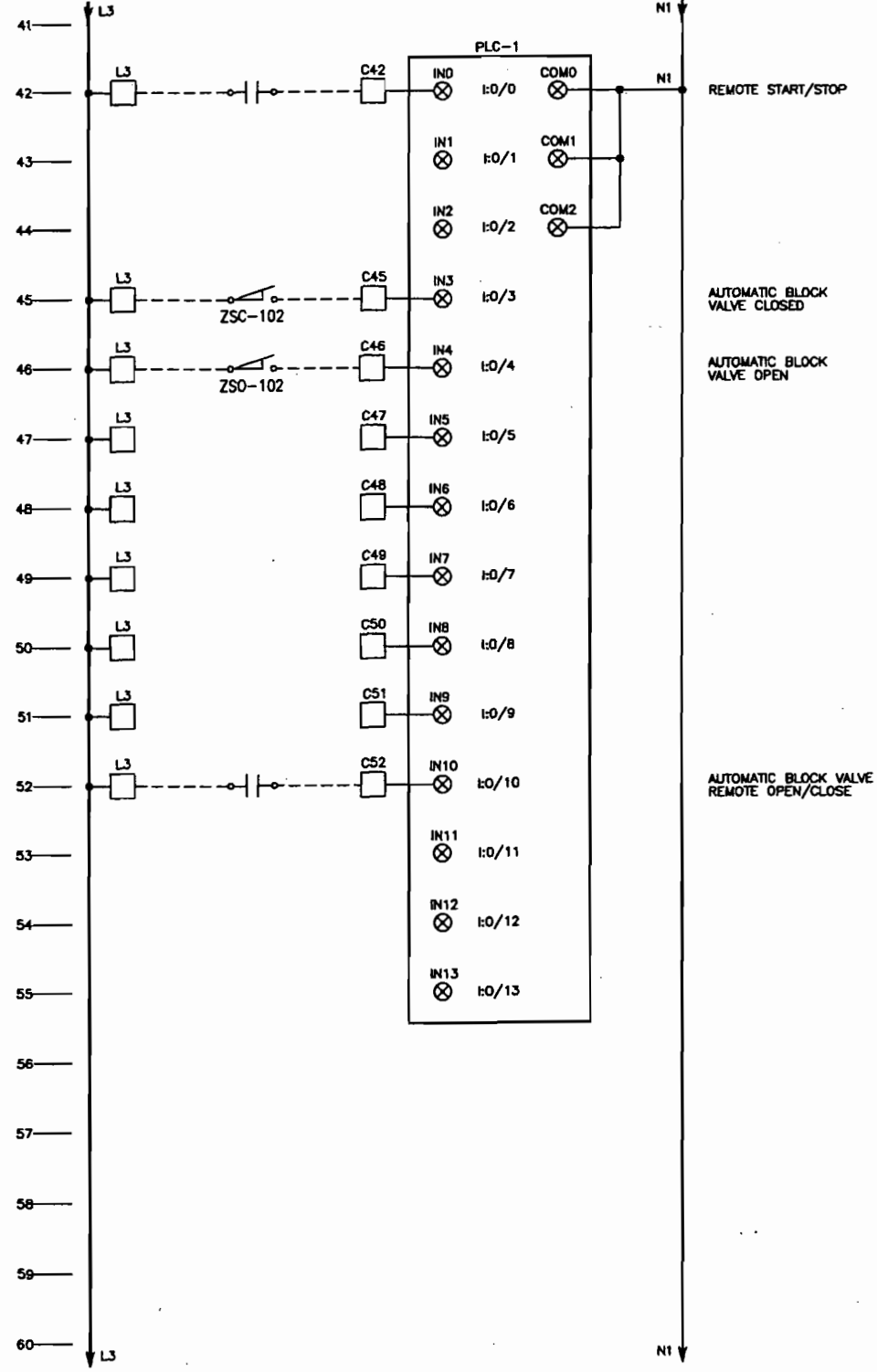
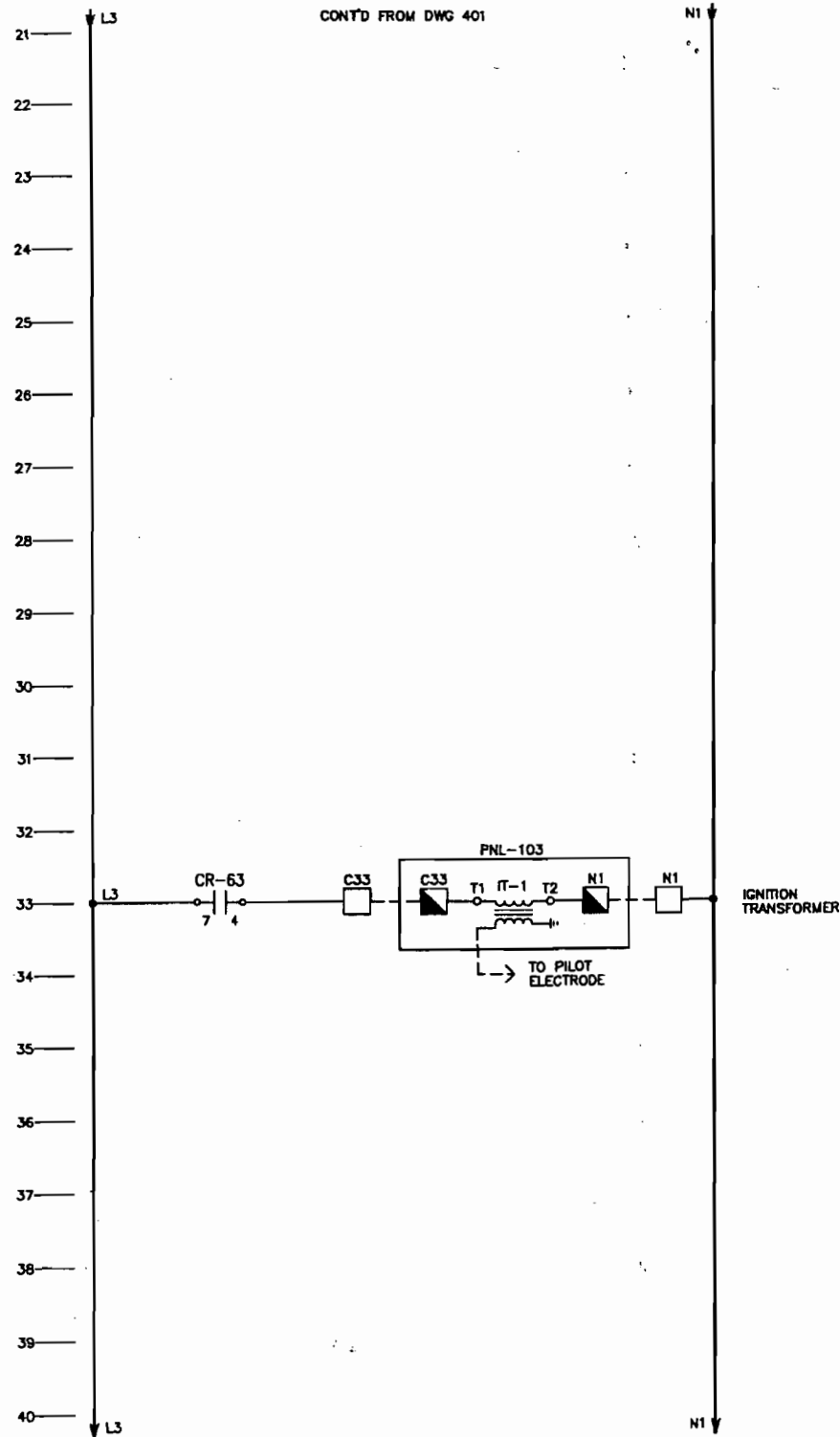
_____ WIRING BY JOHN ZINK CO.

----- WIRING BY OTHERS



CONTD ON DWG. 402

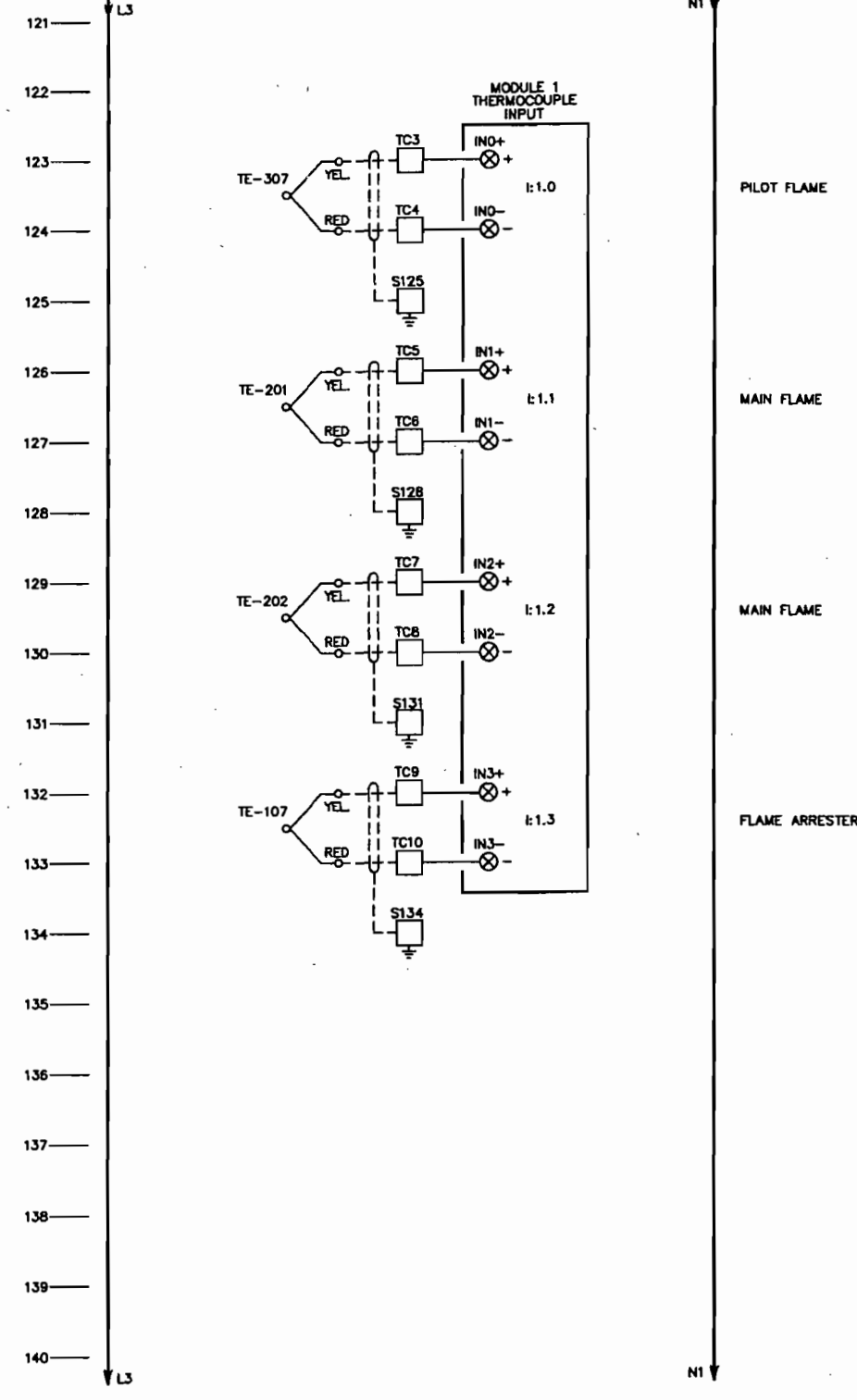
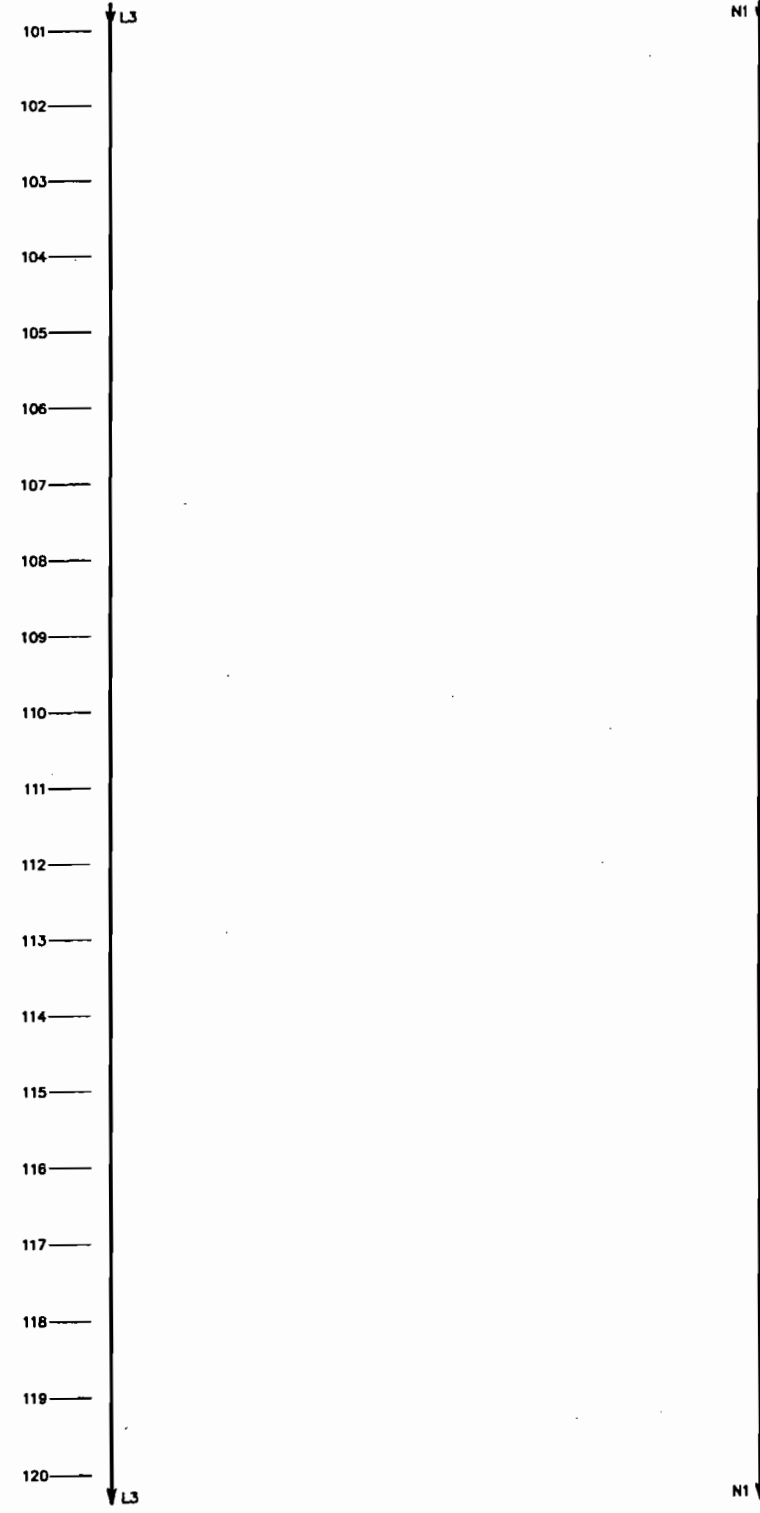
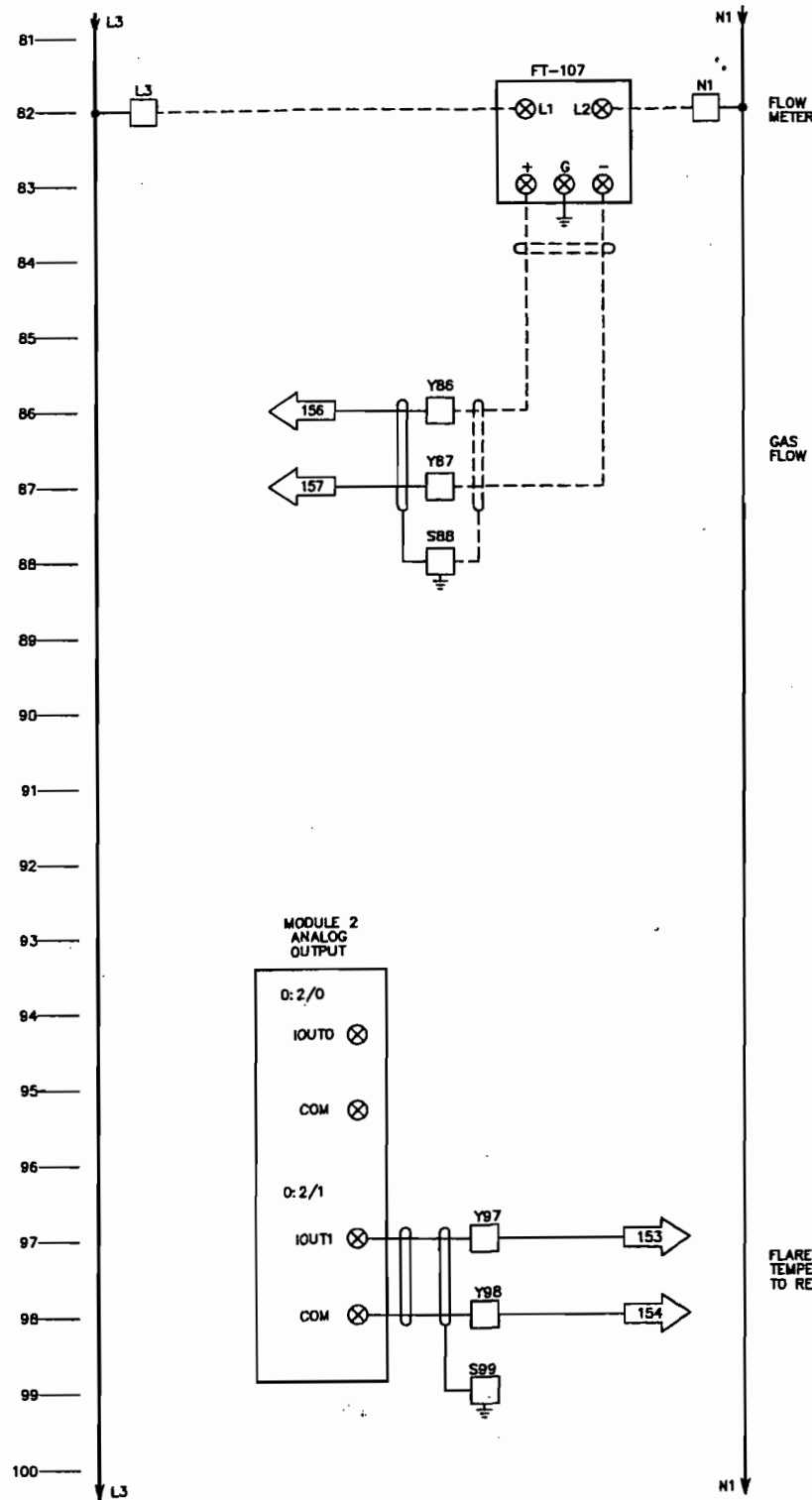
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FOR: SCS ENERGY					 <p>JOHN ZINK COMPANY LLC PARTS AND SERVICE, CALL 1-800-755-4252 FAX (918) 234-1968</p>				
USER: ORANGE COUNTY LANDFILL					PNL-101 WIRING DIAGRAM				
JOBSITE: ORLANDO, FL					FOR AN ELEVATED ZEF FLARE SYSTEM				
S.O. NO. BF-9099706					DRAWING NUMBER D-F-9099706-401				
P.O. NO. 06-4075					REV. 0				
DR. RPJ DATE: 9-5-09					CERTIFIED				
CK. JB DATE:					SCALE NONE				
APP. JB DATE:					1 of 1				
NO.	REVISION DESCRIPTION	BY	CK.	APP.	DATE	DATE:			



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FOR: SCS ENERGY					 JOHN ZINK COMPANY LLC PARTS AND SERVICE, CALL 1-800-755-4252 FAX (918) 234-1988 PNL-101 WIRING DIAGRAM FOR AN ELEVATED ZEF FLARE SYSTEM				
USER: ORANGE COUNTY LANDFILL									
JOB SITE: ORLANDO, FL					S.O. NO. 8F-8099706				
P.O. NO. 06-4075					P.O. NO. 06-4075				
DR. RPJ DATE: 8-5-08					CERTIFIED				
CK. JB DATE:					DRAWING NUMBER				
APP. JB DATE:					D-F-9099706-402				
NO.					REVISION DESCRIPTION				
BY					DATE				
APP.					DATE				
APP. JB DATE:					DATE:				
SCALE					1 of 1				

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FOR: SCS ENERGY					<p>JOHN ZINK COMPANY LLC PARTS AND SERVICE, CALL 1-800-755-4252 FAX (918) 234-1968</p>				
USER: ORANGE COUNTY LANDFILL									
JOBSITE: ORLANDO, FL					PNL-101 WIRING DIAGRAM				
S.O. NO. BF-9099706					FOR AN ELEVATED ZEF FLARE SYSTEM				
P.O. NO. 06-4075					CERTIFIED				
DR. RPJ		DATE: 9-5-08			DRAWING NUMBER		REV. 0		
CK. JB		DATE:			D-F-9099706-403		SCALE		
APP. JB		DATE:			NONE		1 of 1		
NO.	REVISION DESCRIPTION	BY	CK.	APP.	DATE	APP.	DATE	DATE	



JOHN ZINK

JOHN ZINK COMPANY LLC

P.O. Box 21220
Tulsa, OK 74121-1220

11920 East Apache
Tulsa, OK 74116

Phone: (918) 234-1800
Fax: (918) 234-2700

Telex: 497414
ITT: 4630098

SCS Energy
3900 Kilrow Airport Way
Long Beach, CA
90806 USA
Attention: Mr. Jeff Pierce

Date: 9/17/2009

P.O. Number: Jun-75

S.O. Number: 9099706

JZ Project Mgr: John Burr

Issued By: John Burr

To Whom It May Concern:

We are enclosing the following:

E-Mail: 1 Each
Copies: 0 Each

DRAWING NUMBER	CODE	REV	DESCRIPTION
9099706 - 150s1	CF	0	Process & Instrument Diagram
9099706 - 301s1	CF	0	General Arrangement
9099706 - 400s1	CF	0	PR-101 Panel Rack Assembly
9099706 - 400s2	CF	0	Panel Detail (PNL-101)
9099706 - 401s1	CF	0	PNL-101 Wiring Diagram
9099706 - 402s1	CF	0	PNL-101 Wiring Diagram
9099706 - 403s1	CF	0	PNL-101 Wiring Diagram
9099706 - 404s1	CF	0	PNL-101 Wiring Diagram
9099706 - Spec 1 (1/6)	CF	0	Specification Sheet
9099706 - Spec 1 (2/6)	CF	0	Specification Sheet
9099706 - Spec 1 (3/6)	CF	0	Specification Sheet
9099706 - Spec 1 (4/6)	CF	0	Specification Sheet
9099706 - Spec 1 (5/6)	CF	0	Specification Sheet
9099706 - Spec 1 (6/6)	CF	0	Specification Sheet
9099706 - Spec 2 (1/5)	CF	0	Specification Sheet
9099706 - Spec 2 (2/5)	CF	0	Specification Sheet
9099706 - Spec 2 (3/5)	CF	0	Specification Sheet
9099706 - Spec 2 (4/5)	CF	0	Specification Sheet
9099706 - Spec 2 (5/5)	CF	0	Specification Sheet
9099706 - Spec 3 (1/1)	CF	0	Specification Sheet
9099706 - Spec 4 (1/1)	CF	0	Specification Sheet
9099706 - Spec 5 (1/1)	CF	0	Specification Sheet
9099706 - Spec 6 (1/1)	CF	0	Specification Sheet

CODES:

CA - Customer Approval	INF - Information Only
CAB - Certified as Built	OF - Outside Final
CAR - Customer Approval Revised	OFR - Outside Final Revised
CF - Customer Final	PRE - Preliminary
CFR - Customer Final Revised	VEN - Vendor Drawings

RETURN APPROVED

PRINTS TO:
JOHN ZINK COMPANY
P.O. BOX 21220
TULSA, OK 74121-1220

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Received By (Signature):

Company Name:

Date:



JOHN ZINK

JOHN ZINK COMPANY LLC

P.O. Box 21220
Tulsa, OK 74121-1220

11920 East Apache
Tulsa, OK 74116

Phone: (918) 234-1800
Fax: (918) 234-2700

Telex: 497414
ITT: 4630098

SCS Energy
3900 Kilrow Airport Way
Long Beach, CA
90806 USA
Attention: Mr. Jeff Pierce

Date: 9/17/2009

P.O. Number: 794556

S.O. Number: 9099706

JZ Project Mgr: John Burr

Issued By: John Burr

To Whom It May Concern:

We are enclosing the following:

E-Mail: 1 Each
Copies: 0 Each

DRAWING NUMBER	CODE	REV	DESCRIPTION
9099706 - Spec Index	CF	-	Project Specification Sheet List

CODES:

CA - Customer Approval	INF - Information Only
CAB - Certified as Built	OF - Outside Final
CAR - Customer Approval Revised	OFR - Outside Final Revised
CF - Customer Final	PRE - Preliminary
CFR - Customer Final Revised	VEN - Vendor Drawings

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Date:




Project Spec Sheet List

Project # 9099706
 Description 16"X45'
 Customer SCS ENERGY
 Location ORLANDO, FL
 Cust. PO # 06-4075

Project Site ORLANDO, FL

Spec	Page	Qty	Rev. Or	Description	
1	1	6 0		PNL-101	FLARE CONTROL PANEL
1	2	6 0		PNL-101	FLARE CONTROL PANEL
1	3	6 0		PNL-101	FLARE CONTROL PANEL
1	4	6 0		PNL-101	FLARE CONTROL PANEL
1	5	6 0		PNL-101	AUTOMATIC TELEPHONE DIALER
1	6	6 0		PNL-101	RECEIVER INSTRUMENTS
2	1	5 0		PR-101	PANEL RACK
2	2	5 0		PCV-302	PRESSURE CONTROL VALVES & REGULATORS
2	3	5 0		SV-303	SOLENOID VALVES
2	4	5 0		HV-304	MANUAL BALL VALVE
2	5	5 0		PI-305	PRESSURE GAGES
3	1	1 0		TE-107	THERMOCOUPLES & THERMOWELLS
4	1	1 0		SOV-102, SV-102, ZSC-102, ZSO-102	ACTUATED BUTTERFLY VALVE
5	1	1 0		FA-107	FLASH - BACK ARRESTOR
6	1	1 0		FE-107, FT-107	MASS FLOW METER

 <p>JOHN ZINK JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751</p>	<p>JZ SPECIFICATION SHEET FLARE CONTROL PANEL PNL-101</p>	Spec Rev	1	0
		Page No	1 of 6	
		Project	9099706	

Project Name: 16"X45"	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

Item No.	Qty	Tag Number(s)	Description	JZ Part No.
1	1	CE-101	HOFFMAN #C-SD36312 ENCLOSURE, NEMA 4	1084730
2			(36" H X 30" W X 12" D)	
3	1	---	HOFFMAN #CMFK MOUNTING KIT	0303601
4	1	---	HOFFMAN #C-P3630 SUBPANEL	1085777
5	1	---	MCMMASTER-CARR #1363A16 ACCESS DOOR	1128529
6				
7	1	HTR-1	HOFFMAN #D-AH2001A HEATER, 200 W	0300056
8	1	GFI-1	LEVITON #7599-I RECEPTACLE, GFCI, 15 A WITH	0401112
9			#80401-I COVER AND APPLETON #4CS1/2 BOX	
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

25 Notes:

ALL ITEMS REQUIRE UL LABEL

PANEL MOUNT

Revision Date	Initials	Revision Description	Prepared	Date	Name
Δ			Prepared	09/03/2009	BURRJ
Δ			Checked	09/04/2009	BURRJ
Δ			Approved	09/04/2009	BURRJ
Δ			Quote Attached: <input type="checkbox"/> Yes	Copies of Vendor Literature Req'd: 1	

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FOR JZ PARTS: (918)234-2751

JZ SPECIFICATION SHEET
FLARE CONTROL PANEL
PNL-101

Spec	Rev	1	0
Page No.	2 of 6		
Subject	9099706		

Project Name: 16"X45'

Customer Name: SCS ENERGY

Project Site: ORLANDO, FL

Customer P.O.: 06-4075

	Item No.	Qty	Tag Number(s)	Description	JZ Part No.
1	1	1	L-1	CUTLER HAMMER #10250T181NC12N PILOT LIGHT,	0029577
2				TRANSFORMER TYPE, NEMA 4X, 120 VAC, WHITE LENS	
3	2	1	L-2	CUTLER HAMMER #10250T181NC8N PILOT LIGHT,	0029575
4				TRANSFORMER TYPE, NEMA 4X, 120 VAC, GREEN LENS	
5	3	1	L-3	CUTLER HAMMER #10250T181NC7N PILOT LIGHT,	0029574
6				TRANSFORMER TYPE, NEMA 4X, 120 VAC, RED LENS	
7					
8					
9					
10					
11					
12	4	2	S-1, 7	CUTLER HAMMER #10250T20KB SELECTOR SWITCH, TWO	0029572
13				POSITION , NEMA 4X, 1-N/O AND 1-N/C CONTACTS	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

25 Notes:

ALL ITEMS REQUIRE UL LABEL

PANEL MOUNT

Revision	Date	Initials	Revision Description	Prepared	Date	By
Δ				Prepared	09/03/2009	BURRJ
Δ				Checked	09/04/2009	BURRJ
Δ				Approved	09/04/2009	BURRJ
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FOR JZ PARTS: (918)234-2751

JZ SPECIFICATION SHEET FLARE CONTROL PANEL

PNL-101

Spec Rev	1	0
Page No.	3 of 6	
Project	9099706	

Project Name: **16"X45"**
Project Site: **ORLANDO, FL**

Customer Name: **SCS ENERGY**
Customer P.O.: **06-4075**

Item No.	Qty	Tag Number(s)	Description	JZ Part No.
1	1	PLC-1	ALLEN BRADLEY #1762-L40AWAR MICROLOGIX PROCESSOR	1157192
2			WITH DUAL RS-232 PORTS	
3	1	PLC-1	ALLEN BRADLEY #1762-IT4 THERMOCOUPLE INPUT MODULE	1127113
4	1	PLC-1	ALLEN BRADLEY #1762-IF2OF2 ANALOG INPUT AND OUTPUT	1127117
5			MODULE	
6				
7				
8				
9	1	OIP-1	AUTOMATION DIRECT #EA7-S6M TOUCHSCREEN, NEMA 4,	1182022
10			CAPABLE OF MEMORY MODULE EXPANSION	
11	1	---	AUTOMATION DIRECT #EZ-MLOGIX-CBL CABLE	1128532
12	1	PS-1	IDEC #PS5R-E24 POWER SUPPLY, 24 V DC, 100 W,	1078418
13			120 V AC, 60HZ	
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

25 Notes:

ALL ITEMS REQUIRE UL LABEL

PANEL MOUNT

Revision	Date	Initials	Revision Description	Status	Date	Name
△				Prepared	09/03/2009	BURRJ
△				Checked	09/04/2009	BURRJ
△				Approved	09/04/2009	BURRJ
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JOHN ZINK COMPANY LLC
FOR JZ PARTS: (918)234-2751

JZ SPECIFICATION SHEET
FLARE CONTROL PANEL
PNL-101

Spec	Rev	1	0
Page No.	4 of 6		
Project	9099706		

Project Name: 16"X45'	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075


Item No.	Qty	Tag Number(s)	Description	JZ Part No.
1	1	---	ENTRELEC M 4/6 TERMINALS (P/N 115 116.07)	0020514
2	2	---	ENTRELEC FEM6 END SECTION (P/N 118 368.16)	0020515
3	3	---	ENTRELEC BAM END STOP (P/N 103 002.26)	0036813
4	4	---	ENTRELEC PR4 DIN-3 MOUNTING RAIL (P/N 168 500.12)	0405165
5	5	---	ENTRELEC BLANK MARKING TAGS (P/N 233 000.01)	1006764
6	6	---	ENTRELEC BJM6 10 POINT JUMPERS (P/N 168 973.07)	1019660
7	7	---	ENTRELEC M 10/10 TERMINALS (P/N 115 120.17)	1041301
8	8	---	ENTRELEC MTC6 TERMINALS (P/N 115 206.22)	1070213
9				
10				
11				
12				
13	9	CB-2,11	SQUARE D #60110 CIRCUIT BREAKER, 10 A	1140427
14	10	CB-7,10	SQUARE D #60106 CIRCUIT BREAKER, 5 A	1140428
15				
16				
17				
18				
19				
20				
21	11	CR-63,67	IDEC #RR3B-ULCAC120V RELAY, 3 PDT WITH INDICATING	0401314
22			LIGHT AND PUSH-TO-TEST BUTTON	
23	12	---	IDEC #SR3B-05 SOCKET	0030703
24				

25 Notes:

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PANEL MOUNT

Revision	Date	Initials	Revision Description	Status	Date	Name
Δ				Prepared	09/03/2009	BURRJ
Δ				Checked	09/04/2009	BURRJ
Δ				Approved	09/04/2009	BURRJ
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 JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751	JZ SPECIFICATION SHEET AUTOMATIC TELEPHONE DIALER PNL-101		Rev	1	0	
				Page No.	5 of 6	
				Project No.	9099706	

Project Name: 16"X45"	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

1

AUTOMATIC TELEPHONE DIALER

MANUFACTURER: PHONETICS
 MODEL: SENSAPHONE 2000
 QUANTITY: ONE (1) REQUIRED

FEATURES: 8 UNIVERSALLY CONFIGURABLE INPUT CHANNELS, 10 HOUR RECHARGABLE BATTERY, LED CHANNEL INDICATION

CONFIGURATION:

- CHANNEL 1: PILOT FLAME FAILURE
- CHANNEL 2: MAIN FLAME FAILURE
- CHANNEL 3: FLAME ARRESTER HIGH TEMPERATURE
- CHANNEL 4: AUTOMATIC BLOCK VALVE FAILURE
- CHANNEL 5: SPARE
- CHANNEL 6: SPARE
- CHANNEL 7: SPARE
- CHANNEL 8: GENERAL ALARM

POWER: 120 V, SINGLE PHASE, 60 HZ WITH POWER CORD

JOHN ZINK PART NUMBER: 1059898
 TAG: ATD-1

PANEL MOUNT

Revision	Date	Initials	Revision Description	Prepared	Date	Name
△				Prepared	09/03/2009	BURRJ
△				Checked	09/04/2009	BURRJ
△				Approved	09/04/2009	BURRJ
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JOHN ZINK JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751	JZ SPECIFICATION SHEET RECEIVER INSTRUMENTS PNL-101	Spec Rev	1	0
		Page No.	6 of 6	
		Project	9099706	

Project Name: 16"X45"	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

No.	Description	Value	Units	
GENERAL	1 Service	FLOW AND TEMPERATURE		
	2			
	3 Function	Record		
	4 Case	Color		
	5 Mounting	Flush		
	6			
	7 Enclosure Class	Weather Proof		
	8 Power Supply	117 V 60 Hz		
	9 Chart	ELECTRONIC		
	10			
	11 Chart Drive			
	12 Scales			
	13			
INPUTS	25	Input Signals	4-20 mA	
	26	No. of Inputs	6	
	27	Power for XMTRS	External	
	28	Transmitter Spec. No.		
	29			
	30			
	31			
	32			
	OPTIONS	33	Alarm Switches: Qty	Form
		34	Rating	
35		Function		
36		Contact	on Measurement	
37				
38				
39				
40				
41				
42				
ORDER	43	Manufacturer	YOKOGAWA	
	44	Model No.	DX106-3-2/M1	
	45	Tag No.	FR-107, TR-200	
	46	Quantity	1	
	47	Mount	PANEL	
	48	JZ Part No.	1211601	

49 Notes:

ALSO SUPPLY NEWARK #RN60C2500BB14 RESISTOR, 250 OHM
 JOHN ZINK PART NUMBER: 1256267
 QUANTITY: TWO (2) REQUIRED

ALL ITEMS REQUIRE UL LABEL

Revision	Date	Initial	Revision Description	Prepared	Date	Name
△				Prepared	09/03/2009	BURRJ
△				Checked	09/04/2009	BURRJ
△				Approved	09/04/2009	BURRJ
△				Quote Attached: <input type="checkbox"/> Yes	Copies of Vendor Literature Req'd: 1	

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JOHN ZINK
JOHN ZINK COMPANY LLC
FOR JZ PARTS: (918)234-2751

JZ SPECIFICATION SHEET
PANEL RACK
PR-101

Spec. Rev.	2	0
Page No.	1 of 5	
Project	9098706	

Project Name: 16"X45'	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

Item No.	Qty	Tag Number(s)	Description	JZ Part No.
1	1	L-17	COLUMBIA #LUN4-248HO-WL120-IPK FIXTURE,	1003919
2			FLUORESCENT, 4 FT, 120 V, WITH TWO (2) 60 W LAMPS	
3	50'	---	DELCO #440 IGNITION WIRE, HIGH VOLTAGE	0002167
4	400'	---	THERMO SENSORS #JZ16KX THERMOCOUPLE WIRE,	0022724
5			16 GAGE SHIELDED, MOISTURE RESISTANT, HIGH	
6			TEMPERATURE INSULATION	
7				
8				
9				
10				
11				
12				
13				
14				
15				
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18				
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21				
22				
23				
24				

25 Notes:

ALL ITEMS REQUIRE UL LABEL
SHIP LOOSE FOR FIELD INSTALLATION

Revision	Date	Initials	Revision Description	Prepared	Date	Name
Δ				Prepared	09/03/2009	BURRJ
Δ				Checked	09/04/2009	BURRJ
Δ				Approved	09/04/2009	BURRJ
Δ				Quote Attached: <input type="checkbox"/> Yes	Copies of Vendor Literature Req'd: 1	

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JOHN ZINK JOHN ZINK COMPANY LLC	JZ SPECIFICATION SHEET PRESSURE CONTROL VALVES & REGULATORS PCV-302	Spec Rev	2	0
	FOR JZ PARTS: (918)234-2751	Page No.	2 of 5	
		Project	9099706	

Project Name: 16"X45'	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

L I N E	1	Service	PROPANE / NATURAL GAS		A C C E S S O R I E S	28	Filt. Reg.	Supply Gage		
	2	Line No./Vessel No.				29	Line Strainer			
	3	Line Size/Sched. No.	1/2"			30	Housing Vent			
	4	Function	PILOT GAS			31	Internal Relief			
B O D Y	5	Type of Body	REGULATOR		32					
	6	Body Size	Port Size	1/2"	1/4"	33				
	7	Guiding	No. of Ports			34				
	8	End Conn. & Rating	1/2" NPT		S E R V I C E	35	Flow Units	SCFH		
	9	Body Material	ALUMINUM			36	Fluid	PROPANE / NATURAL GAS		
	10	Packing Material				37	Quant. Max	g	25 / 50	
	11	Lubricator	Isolating Valve				38	Quant. Oper.	22 / 45	
	12	Seal Type				39	Valve C	Valve 1		
	13	Trim Form	QUICK OPENING			40	Norm. Inlet Press.	ΔP		
	14	Trim Material	NITRILE			41	Max. Inlet Press.	250 PSIG		
	15	Seat Material	NITRILE			42	Max. Shut Off ΔP	250 PSIG		
	16	Required Seat Tightness				43	Temp. Max.	Operating	125	60
	17	Max. Allow. Sound Level dBA				44	Oper. sp. gr.	Mol. Wt.	1.52 / 0.65	44 / 19
A C T U A T O R	18	Type of Actuator	SPRING DIAPHRAGM			45	Oper. Visc.	% Flash		
	19	Pilot				46	% Superheat	% Solids		
	20	Supply to Pilot				47	Vapor Press.	Crit. Press.		
	21	Self Cont.	Ext. Conn.	X		48	Predicted Sound Level dBA			
	22	Diaphragm Material	NITRILE		O R D E R	49				
	23	Diaphragm Rating	250 PSIG			50	Manufacturer	FISHER		
	24	Spring Range	5 TO 35 PSIG			51	Model No.	64-27		
	25	Set Point	15 PSIG			52	Mount	RACK		
	26					53	Tag No.	PCV-302		
	27					54	JZ Part No.	0016414		

55 Notes:

QUANTITY: ONE (1) REQUIRED

Revision	Date	Initials	Revision Description	Date	Name
△				Prepared	09/03/2009 BURRJ
△				Checked	09/04/2009 BURRJ
△				Approved	09/04/2009 BURRJ
△				Quote Attached: <input type="checkbox"/> Yes	Copies of Vendor Literature Req'd: 1

JOHN ZINK JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751	JZ SPECIFICATION SHEET SOLENOID VALVES SV-303	Rev 2	0
		Page No 3 of 5	
		Project 9099706	

Project Name: 16"X45"	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

G E N E R A L	1	Tag No.	SV-303		S O L E N O I D	28	Enclosure	NEMA 4,7			
	2	Service	PILOT GAS			29	Voltage / HZ	120 V AC	60		
	3					30	Style of Coil	F			
	4	Line No. / Vessel No.				31	Single or Double Coil				
	5	Quantity	1			32					
V A L V E B O D Y	6	Type			33						
	7	Size: Body	Port	1/2"	3/4"	S E R V I C E C O M D	34	Fluid	PROPANE	NATURAL GAS	
	8	Rating	Type Conn.				NPT	35	Qty. Maximum	25 SCFH	50 SCFH
	9	Material - Body	ALUMINUM				36	Oper. Diff. Min / Max	0	15 PSIG	
	10	Material - Seal	NITRILE				37	Allow. Diff. Min / Max	0	50 PSIG	
	11	Material - Diaphragm	NITRILE				38	Temp. Norm / Max.	F	60	125
	12	Operation Direct/ Pilot	DIRECT					39	Oper. sp. gr.	1.52	0.65
	13	Packless or Type Packed	PACKLESS				40	Oper. Viscosity			
	14	Manual Re-Set	NO				41	Required Cv			
	15	Manual Operator					42	Valve Cv	4.4		
16					43						
W H E N D E - T E R M I N E D	18	2-Way Valve Opens/Close		CLOSES		44					
	19	3-Way				45					
	20	Vent Port Opens/Close				46					
	21	Press Port Opens/Clos				47					
	22	4-Way				48					
	23	Press to Cyl.1 / Cyl.2				49					
	24	Exh. from Cyl.1 / Cyl.2				50					
	25					51	Manufacturer	ASCO			
	26					52	Model No.	EF8216G20			
	27					53	Mount	RACK			
					54	JZ Part No.	0012004				

55 Notes:

Revision Date	Initials	Revision Description	Date	Name
△			09/03/2009	BURREJ
△			09/04/2009	BURREJ
△			09/04/2009	BURREJ
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JOHN ZINK
JOHN ZINK COMPANY LLC
FOR JZ PARTS: (918)234-2751

JZ SPECIFICATION SHEET
MANUAL BALL VALVE
HV-304

Spec. Rev	2	0
Page No.	4 of 5	
Project	9099706	

Project Name: **16"X45'**
Project Site: **ORLANDO, FL**

Customer Name: **SCS ENERGY**
Customer P.O.: **06-4075**


1	Manufacturer	APOLLO
2	Model No.	73-103-01
3	Process Connections	THREADED
4	Body Material	CARBON STEEL
5	Ball Material	CARBON STEEL
6	Stem Material	CARBON STEEL
7	Seal/Seat Material	TFE/TFE
8	Packing Material	TFE
9	Handle Type	LEVER
10		
11		
12		

34 Notes:

13	Qty	Tag No.	Size	Oper. Press. PSIG	Oper. Temp. ° F	Service	Mount	JZ Part No.
14	1	HV-304	1/2"	15	60	PILOT GAS	RACK	0501519
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
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31								
32								
33								

Revision Data	Initials	Revision Description	Prepared	Date	Name
△			Prepared	09/03/2009	BURRJ
△			Checked	09/04/2009	BURRJ
△			Approved	09/04/2009	BURRJ
△			Quote Attached: <input type="checkbox"/> Yes	Copies of Vendor Literature Req'd: 1	

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 JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751	JZ SPECIFICATION SHEET PRESSURE GAGES PI-305	Spec. Re	2	0
		Page No	5 of 5	
		Project	9099706	

Project Name 16"X45'	Customer Name SCS ENERGY
Project Site ORLANDO, FL	Customer P.O.: 06-4075

1	Type	Direct	13	Process Connection	1/2" BOTTOM
2	Mount Type	Local	14	Operating Temperature	60 F
3	Dial Diamete	4 1/2"	15	OPTIONS	
	Color	WHITE	16		
4	Case Material	Phenol	17		
5	Ring Type	Screwed	18		
6	Blow-Out Protection	Back	19		
7	Lens Material	Plastic	20		
8	Accuracy Required	+/- 0.5%	21		
9	Element Type	Bourdon	22		
10	Element Materia	SS	23	Manufacturer	WIKA
11	Socket Material	Steel	24	Model No.	222.34 4.5 30PSI 1/2L
12	Movement Material	SS			

25	Quantity	Tag No	Range PSIG	Oper. Press. PSIG	Service	JZ Part No
26	1	PI-305	0 TO 30	15	PILOT GAS	1209636
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						

45 Notes:

RACK MOUNT

Revision	Date	Initials	Revision Description	Prepared	Date	Name
Δ				Prepare	09/03/2009	BURRJ
Δ				Checked	09/04/2009	BURRJ
Δ				Approved	09/04/2009	BURRJ
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JOHN ZINK JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751	JZ SPECIFICATION SHEET THERMOCOUPLES & THERMOWELLS TE-107	Spec	Rev	3	0	
					Page No.	1 of 1
					Project	9099706

Project Name: 16"X45"	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

E L E M E N T	1	Manufacturer	THERMO SENSORS		W E L L	11	Material		
	2	Model No.	6K34-U-06-SM3			12	Construction		
	3	ISA Type	Wire Size	K		14 AWG	13	O.D. Dim.	I.D. Dim.
	4	Sheath O.D.	Sheath Mat'l	3/8"		304 SS	14	Process Conn.	Internal Conn.
	5	Type		Ungrounded		15			
H E A D	6	Material		CAST IRON		A S S E M B L Y	16 Nipple Length "N"		
	7	Conduit Connection		3/4"			17		
	8	Terminal Block		Single			18	Manufacturer	
	9	Process Connection		1/2"			19	Model	
	10						20		


	Tag No.	Well Dimes.		Element Length	Single Duplex	Type	Gage	Service	JZ Part No.
		"U"	"T"						
21									
22	TE-107			6"	SINGLE	K	14	FLAME ARRESTER	1091806
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									

37 Notes:

QUANTITY: ONE (1) ASSEMBLY REQUIRED

SHIP LOOSE FOR FIELD INSTALLATION

Revision Data	Initials	Revision Description	Date	Name
Δ			09/03/2009	BURRJ
Δ			09/04/2009	BURRJ
Δ			09/04/2009	BURRJ
Δ			Quote Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No Copies of Vendor Literature Req'd: 1	

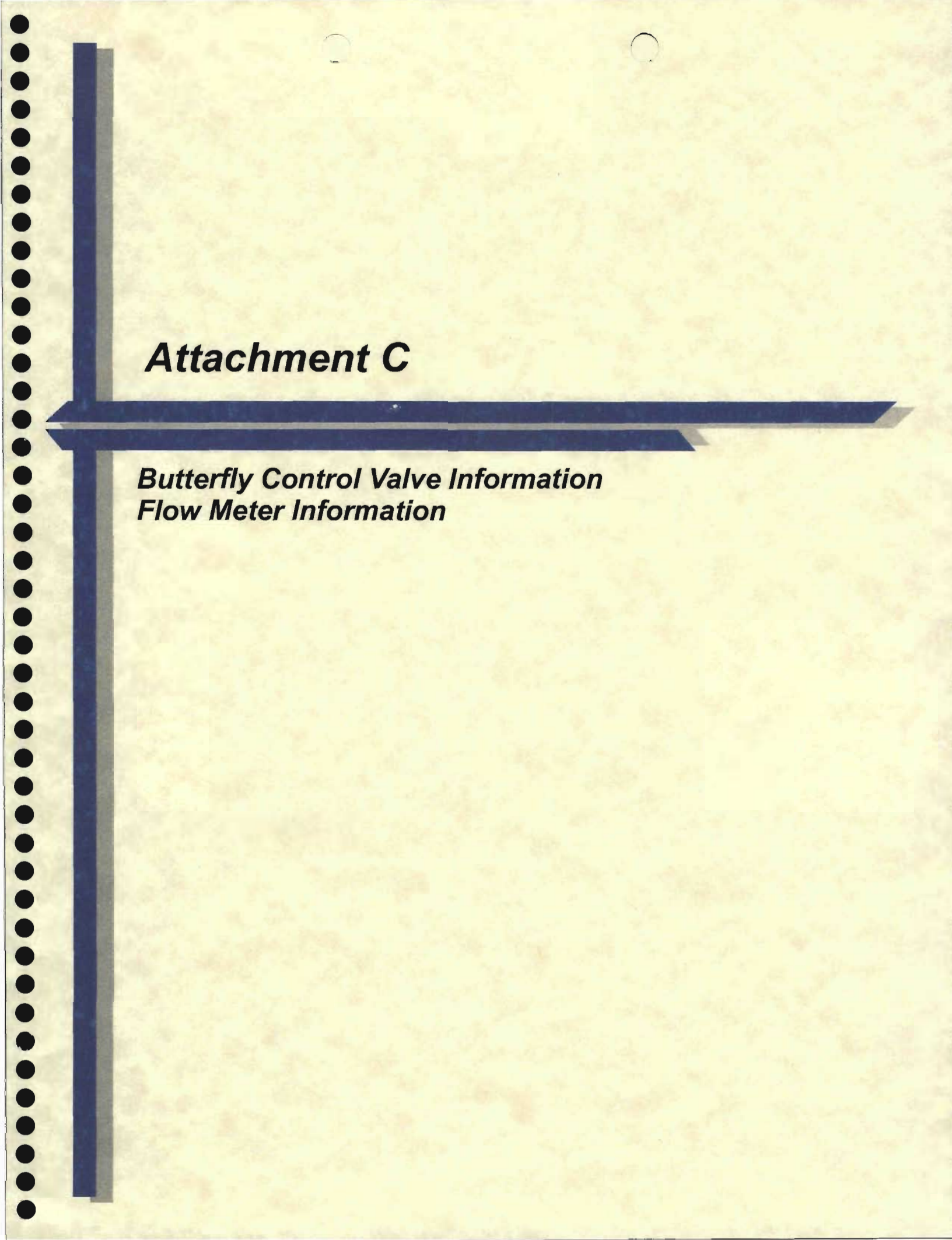
 <p>JOHN ZINK JOHN ZINK COMPANY LLC</p> <p>FOR JZ PARTS: (918)234-2751</p>	<p>JZ SPECIFICATION SHEET FLASH - BACK ARRESTOR FA-107</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="font-size: 8px;">Spec</td><td style="font-size: 8px;">Rev</td><td style="text-align: center;">5</td><td style="text-align: center;">0</td></tr> </table>	Spec	Rev	5	0	
	Spec	Rev	5	0			
			<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="font-size: 8px;">Page No.</td><td style="text-align: center;">1 of 1</td></tr> </table>	Page No.	1 of 1		
Page No.	1 of 1						
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="font-size: 8px;">Project No.</td><td style="text-align: center;">9099706</td></tr> </table>	Project No.	9099706			
Project No.	9099706						

Project Name: 16"X45'	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

1	Manufacturer	ENARDO	<p>34 Notes:</p> <p style="text-align: center;">TWO (2) 1/2" FNPT TAPS WITH PLUG REQUIRED, ONE ON EACH SIDE OF ELEMENT.</p>
2	Model No.	E72814/D-AAF-13	
3	Process Connections	125 LB FF	
4	Body Material	ALUMINUM	
5	Element Materia	ALUMINUM	
6	Drain Connection	1/2" NPT WITH PLUG	
7			
8			
9			
10			
11			
12			

13	Qty	Tag No.	Size	Oper. Press. H2O	Oper. Temp. ° F	Service	Mount	JZ Part No.
14	1	FA-107	14"	10"	100	LANDFILL GAS	FIELD	1061518
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

Revision Date	Initials	Revision Description	Prepared	Date	Name
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△			Approved	09/04/2009	BURRJ
△			Quote Attached: <input type="checkbox"/> Yes	Copies of Vendor Literature Req'd: 1	



Attachment C

Butterfly Control Valve Information
Flow Meter Information

Butterfly Control Valve Information

JOHN ZINK JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751	JZ SPECIFICATION SHEET ACTUATED BUTTERFLY-VALVE SOV-102, SV-102, ZSC-102, ZSO-102	Spec. Rev	4	0
			Page No.	1 of 1
			Project	9099706

Project Name: 16"X45'	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075


G E N E R A L	1	Tag No.	SOV-102		P O S I T I O N E R	28	Manufacturer	
	2	Service	LANDFILL GAS			29	Model	
	3	Line No./Vessel No.				30	Signal Supply Requirement	
	4	Line Size/Sched. No.	14"			31	Input Signal	
T Y P E	5	Type of Body	Body Size	WAFER	14"	32	Output Signal	
	6	Port Size	Valve Cv	14"		33	Electrical Rating	
	7	Shaft Diameter				34		
	8	Face to Face Dimension				35	Filter Regulator	
	9	End Conn. and Rating		14" 150 LB RF		36	Gage Set	
M A T E R I A L S	10	Body		CARBON STEEL		37	Mechanical Travel Stop	
	11	Disc		316 STAINLESS STEEL		38	Instr. Tubing Requirements	STAINLESS STEEL
	12	Shaft		17-4 PH STAINLESS STEEL		39	Position Switch ZSC/O-102	TOP WORX #DXP-M21GSEB
	13	Bushing				40	Solenoid Valve SV-102	ASCO #EF8317G35 120/60
	14	Trim Form				41	Other Accessories	SPEED CONTROL VALVE
	15	Trim:	Seat	PTFE		42		
	16		Seal			43		
	17		Packing			44		
	18	Seat Leakage Classification				45	Fluid Type	LANDFILL GAS
A C T U A T O R	19					46	Operating Temperature Range	40 TO 100 F
	20	Manufacturer		BETTIS		47	Operating Flow Rate Range	0 TO 4000 SCFM
	21	Model		CBA930SR100		48	Operating Pressure Range	10" H2O
	22	Type (Pneumatic/Electrical)		PNEUMATIC		49	Maximum Shut Off Δ /Pressure	
	23	Input Signal (Max/Min)				50		
	24	Action (Spring Return/Double)		SPRING RETURN		51	Manufacturer	XOMOX
	25	Actuator/Valve Orientation				52	Model Number	14" 801-267-ST2
	26	Failure Mode		CLOSED		53	Mount	SHIP LOOSE
	27					54	JZ Part No.	1119793

55 Notes:

QUANTITY: ONE (1) ASSEMBLY REQUIRED

Revision	Date	Initials	Revision Description	Title	Name
Δ				Prepared	09/03/2009 BURREJ
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Flow Meter Information

 <p>JOHN ZINK JOHN ZINK COMPANY LLC FOR JZ PARTS: (918)234-2751</p>	<p>JZ SPECIFICATION SHEET MASS FLOW METER FE-107, FT-107</p>	Spec Rev	6	0
		Page No	1 of 1	
		Project	9099706	

Project Name: 16"X45'	Customer Name: SCS ENERGY
Project Site: ORLANDO, FL	Customer P.O.: 06-4075

1

MASS FLOW METER

MANUFACTURER: THERMAL INSTRUMENT COMPANY
MODEL: 62-9/9500-I-G-1/2-316SS-PG-120-4/20-ND
QUANTITY: ONE (1) ASSEMBLY REQUIRED

CONNECTION: 3/4" MALE NPT COMPRESSION FITTING
 (316 STAINLESS STEEL BODY AND FERRULE)
MOUNT: TOP
PROBE LENGTH: 12"
TUBE MATERIAL: 316 STAINLESS STEEL

POWER: 120 V AC, SINGLE PHASE, 60 HZ
ENCLOSURE RATING: NEMA 7/4X
ENCLOSURE MATERIAL: ALUMINUM
TRANSMITTER: INTEGRAL
OUTPUT: 4 TO 20 MA

SERVICE: LANDFILL GAS (50% CH₄, 50% CO₂)
PIPE: 14" DIAMETER, SDR 17 HDPE
 (12.254" INSIDE DIAMETER)

MINIMUM FLOW RATE: 0 SCFM
DESIGN FLOW RATE: 4000 SCFM
MAXIMUM FLOW RATE: 4400 SCFM

MINIMUM PRESSURE: 0 PSIG
DESIGN PRESSURE: 10" H₂O
MAXIMUM PRESSURE: 1 PSIG

MINIMUM TEMPERATURE: 32 °F
DESIGN TEMPERATURE: 100 °F
MAXIMUM TEMPERATURE: 120 °F

JOHN ZINK PART NUMBER: 9099706A06
TAG NUMBER: FE-107, FT-107

SHIP LOOSE FOR FIELD INSTALLATION

Revision	Date	Initials	Revision Description	Status	Date	Name
△				Prepared	09/03/2009	BURRJ
△				Checked	09/04/2009	BURRJ
△				Approved	09/04/2009	BURRJ
△				Quote Attached: <input type="checkbox"/> Yes	Copies of Vendor Literature Req'd: 1	



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

ELECTRONIC CORRESPONDENCE

jim.becker@ocfl.net

James W. Becker, Manager
Utilities Department, Solid Waste Manager
9150 Curry Ford Road
Orlando, Florida 32825

OCD-AP-09-036

Dear Mr. Becker:

We are responding to your July 27, 2009 request for FDEP compliance determination of the current Cell 9 LFG Collection and Control System with 40 Code of Federal Regulations, Subpart WWW, Sections 60.752, 60.753, and 60.759. The system must be in compliance by January 24, 2010.

We are providing the following comments to the request:

Planned LFG Utilization System [60.752(b)(2)(iii)(C)], Page 3:

1. The on-site treatment system will be subject to Subpart WWW, and must be covered under Air Construction and Title V Operation permit.
2. All emissions from any atmospheric vent from the gas treatment system shall be routed to the flare or applicable control.
3. The pipeline beyond the treatment would not be covered under the Subpart WWW.

Comparison of Existing Cell 9 LFG Collection System with Subpart WWW Requirements [60.759 Specifications for Active Collection System, Pages 4-7]

1. The Solid Waste Section has concurred that the present system (not including the flare control) meets the construction requirements for Subpart WWW, based on the PE signed and seal permit application. The facility uses horizontal collectors (which can also be called horizontal wells). There must be adequate wellhead sampling ports for checking the 60.753 operational parameters.
2. The County's estimated maximum gas flow is 2,250 scfm or greater, but the existing temporary flare has a peak capacity of 1,200 scfm. Subpart WWW 60.752(b)(ii)(A)(1) requires the active collection system be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment. The current flare does not meet this WWW requirement and an upgrade is required prior to the January 23, 2010.
3. The Department has received an air construction application on August 28, 2009 for an upgrade to a 4000 scfm flare. A Request for Additional Information (RAI) was submitted to you on September 19, 2009 regarding the application.

Comparison of Existing Cell 9 LFG Collection System with Subpart WWW Requirements [60.753 Operational Standards for Collection and Control Systems and 60.755 Compliance Provisions], Pages 7-9

1. The data does not show that operation parameters are met at all times, but repairs and maintenance have been observed. The cell will be required to meet all required timelines and corrective actions after January 23, 2010.
2. Since the surface monitoring has not occurred, a compliance determination cannot be made. Once the requirement date is met, the County is required to immediately perform the monitoring.
3. The temporary existing flare is a source of air pollution, and should be tested for visible emissions.
4. Monthly pressure, temperature, oxygen, and quarterly surface monitoring exceedance require corrective actions in accordance with the appropriate sections of this rule.

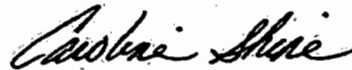
Gas Mover and Flare Evaluation, [60.18], Pages 9-13 The existing flare specifications are compliant up to January 23, 2010, but testing is presently required to demonstrate compliance in its existing state. It will not be sufficient to meet WWW requirements based on the maximum expected flow rate of this cell. However, the proposed new flare should be sufficient if permitted.

The action plan remaining items:

1. Testing of the existing flare
2. Response to the new flare Air Construction RAI
3. Timely Installation and Operation of new Flare
4. Solid Waste Intermediate Modification-LFG pipeline
5. Modification of the TV permit to include additional cells.

If you have any further comments, please contact me at 407-893-3332 or John Turner at 407-893-3306.

Sincerely,



Caroline Shine
Program Administrator
Air Resource Management

cc: Tom Lubozynski-FDEP Waste Program Administrator
Dan Morriscal-Chief Engineer, Orange County Utilities-SW Div.
Ron Beladi, P.E., CH2M/Neel-Schaffer-Joint Venture
Bo Bruner, P. E., CH2M/Neel-Schaffer-Joint Venture
Jim Flynt, P. E., Sr. Engineer, Orange County Utilities-SW Div.

Agner, Tracy

From: Ron Beladi [ron.beladi@neel-schaffer.com]
Sent: Thursday, October 01, 2009 12:52 PM
To: DEP_CDAIR
Subject: Re: responding to your July 27, 2009 request for FDEP compliance determination

Got it. Thanks

Sent from my phone

On Oct 1, 2009, at 12:21 PM, "DEP_CDAIR" <DEP_CDAIR@dep.state.fl.us> wrote:

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

The attached document is from the Florida Department of Environmental Protection's Central District Office. Please acknowledge receipt of this document by replying to this e-mail. The document may require immediate action within a specified time frame, therefore please open and review the document as soon as possible. The document is in Adobe Portable Document Format (pdf) and can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html>.

The Department is issuing electronic documents in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the community.

Thank you,

Tracy L. Agner

Administrative Support, Air Permitting Program

Florida Department of Environmental Protection

3319 Maguire Blvd., Ste. 232

Orlando, FL 32803

407-893-3334

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

<10012009 Orange County Landfill.pdf>

Agner, Tracy

From: Jim.Becker@ocfl.net
Sent: Thursday, October 01, 2009 2:24 PM
To: DEP_CDAIR
Subject: Read: responding to your July 27, 2009 request for FDEP compliance determination
Attachments: Read: responding to your July 27, 2009 request for FDEP compliance determination

Importance: High

PLEASE NOTE: Florida has a very broad public records law (F. S. 119).
All e-mails to and from County Officials are kept as a public record.
Your e-mail communications, including your e-mail address may be disclosed to the public and media at any time.

Agner, Tracy

From: Dan.Morrical@ocfl.net
Sent: Thursday, October 01, 2009 4:19 PM
To: DEP_CDAIR
Subject: RE: responding to your July 27, 2009 request for FDEP compliance determination

Received and accessed.

Dan R. Morrival, P.E., Chief Engineer
Orange County Utilities Solid Waste Division
(407) 836-6654, Fax (407) 836-6629, Cell (321) 303-4368

From: Agner, Tracy [mailto:Tracy.Agner@dep.state.fl.us] **On Behalf Of** DEP_CDAIR
Sent: Thursday, October 01, 2009 12:22 PM
To: Becker, Jim
Cc: Lubozynski, Tom; Morrival, Dan; Flynt, James; Bo.Bruner@CH2M.com; ron.beladi@neel-schaffer.com
Subject: responding to your July 27, 2009 request for FDEP compliance determination
Importance: High

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

The attached document is from the Florida Department of Environmental Protection's Central District Office. Please acknowledge receipt of this document by replying to this e-mail. The document may require immediate action within a specified time frame, therefore please open and review the document as soon as possible. The document is in Adobe Portable Document Format (pdf) and can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html>.

The Department is issuing electronic documents in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the community.

Thank you,

Tracy L. Agner
Administrative Support, Air Permitting Program
Florida Department of Environmental Protection
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803
407-893-3334

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

PLEASE NOTE: Florida has a very broad public records law (F. S. 119).

All e-mails to and from County Officials are kept as a public record.
Your e-mail communications, including your e-mail address may be
disclosed to the public and media at any time..

Turner, John B.

From: Shine, Caroline
Sent: Wednesday, September 30, 2009 7:59 AM
To: Turner, John B.; Rustin, Jeff
Subject: FW: Orange County Cell 9 LFG System
Attachments: 2009-09-28 Solid waste answer to Air Program.doc

I would like to discuss this with you today. Can we meet about 10?

Thank you,

Caroline Shine, Program Administrator
Air Resource Management
FDEP, Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
407-893-3332
Caroline.Shine@dep.state.fl.us

From: Lubozynski, Tom
Sent: Monday, September 28, 2009 3:16 PM
To: Shine, Caroline
Cc: Cheryan, George; Janwadkar, Sandeep; Lubozynski, Tom; Turner, John B.; Zahm, Alan
Subject: RE: Orange County Cell 9 LFG System

Caroline

Attached is the Solid Waste response to the response you sent me on Aug 12 and our review of "FDEP Application for Title -V Air Construction Permit Landfill Gas Flare Cells 9-12 Class I Landfill Southern Expansion Site." We received that document on August 28. However, you sent us comments on Aug 12. So, we might have reviewed different documents about the same action. Let me know if Air has any questions.

Tom

From: Shine, Caroline
Sent: Monday, September 14, 2009 3:27 PM
To: Lubozynski, Tom; Cheryan, George
Subject: RE: Orange County Cell 9 LFG System

Tom,

Just checking to see how close we are to responding to Orange County.

Thank you,

Caroline Shine, Program Administrator
Air Resource Management
FDEP, Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

407-893-3332

Caroline.Shine@dep.state.fl.us

From: Shine, Caroline
Sent: Wednesday, August 12, 2009 5:03 PM
To: Lubozynski, Tom; Cheryan, George
Cc: Turner, John B.; Zahm, Alan
Subject: RE: Orange County Cell 9 LFG System

Tom and George,

Here are the air responses. Please let me know the results of your review, and we can make a joint response to Orange County.

Thank you,

*Caroline Shine, Program Administrator
Air Resource Management
FDEP, Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
407-893-3332
Caroline.Shine@dep.state.fl.us*

From: Lubozynski, Tom
Sent: Thursday, August 06, 2009 8:49 AM
To: Shine, Caroline; Cheryan, George
Cc: Turner, John B.; Zahm, Alan; Vielhauer, Trina; Lubozynski, Tom
Subject: RE: Orange County Cell 9 LFG System

Caroline – I think we received a copy of the report. Do you need anything from us in order to do your review about compliance with air regulations? If so, let both George and I know.

George – make sure the report mentioned by Caroline is the one I forwarded to you earlier this week. Please look at it. Have we permitted the LFG system described in the report? Or do they need to submit a permit modification?

Tom

From: Shine, Caroline
Sent: Wednesday, August 05, 2009 4:44 PM
To: Lubozynski, Tom
Cc: Turner, John B.; Zahm, Alan; Vielhauer, Trina
Subject: Orange County Cell 9 LFG System

Tom:

I received a request from Orange County for a compliance determination whether the LFG system and Flare complies with Subpart WWW. I informed them earlier in the meeting that the Solid Waste Section evaluates the LFG system (during permitting review), and the Air section evaluates the Control Device. The Air Section reviewed the operation of the LFG. I think we further discussed the matter afterward, and found the guidance memo. I have two copies of the report, with some initial comments. Did you received a copy, or would you want one of the copies we have? The County has not submitted an air permit application yet.

I know that DARM and SW in Tallahassee are discussing the revision of the memo.

Thank you,

*Caroline Shine, Program Administrator
Air Resource Management
FDEP, Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
407-893-3332
Caroline.Shine@dep.state.fl.us*

TO: Caroline Shine, Air Program Administrator

We have completed the review of the report titled "FDEP Application for Title -V Air Construction Permit Landfill Gas Flare Cells 9-12 Class I Landfill Southern Expansion Site." The document was signed and sealed by Mehran S. Beladi, P.E., CH2M/NEEL-SCHAFFER-Joint Venture, on August 25, 2009. It was received at DEP on Aug 28, 2009.

We have also reviewed the draft comments which the Air Program prepared (below). Those comments were sent to me by you on Aug 12, 2009. So, our comments may be related to a submitted document that is different than the one your staff reviewed. The Air Program response references page numbers in the submitted document. The difference in dates may explain why solid waste was not able to correlate the page numbers to specific locations in the document that we reviewed.

We have following comments:

- 1) This submittal is an Air Permit Application for construction of a new emissions control flare for combusting landfill gas (LFG) from Cells 9-12. The new flare is designed for 4000 SCFM versus 1200 SCFM of the currently installed flare. The report provides supporting calculations for the design of proposed 4000 SCFM Flare.
- 2) There is no Attachment 9 in the submittal. The 4th page of "II. Facility Information" states in a note at the bottom "see Attachment 9." We are not sure whether this means Attachment 9 of the 2008 Annual Operating Report or Attachment 9 of this application. (From SW perspective, Attachment 9 is not important.
- 3) The Cell 9 Landfill Gas Collection System was permitted thru an Intermediate Modification to Solid Waste Permit No SC42-0128169-012, dated January 08, 2002. The Cell 9 construction was certified and accepted as complete by the Solid Waste Program in January 2005. The extensions to the perimeter LFG header along the west edge of cell 10 was permitted as part of the Cell 10 construction permit; it is currently being constructed. The continued construction of the LFG collection and flare system was further permitted as a modification to the Cell 9 operation permit in 2008.
- 4) The actual gas extraction wells in cells 9 thru 12 will be constructed as the cell build out continues. During Sandeep's last inspection at the Orange County Landfill in July 2009, some of the gas extraction well installation had been installed in Cell 9. These are horizontal wells (collectors), not vertical wells. It is up to the Design Engineer/Engineer of Record whether vertical or horizontal wells will be used. The installation is being done in accordance with the Solid waste permit.
- 5) Rule 62-701.530 F.A.C., Gas Management Systems, has a section on LFG collection system design. The submitted designs met these requirements. The Rule states:
 - (1) Design requirements.
 - (a) Landfills that receive degradable wastes shall have a gas management system designed to prevent explosions and fires, and to minimize off-site odors, lateral migration of gases and damage to vegetation. Combustible gases shall be calibrated to methane. Owners or operators of such landfills shall submit a general gas management system design as part of their permit application, and may modify that design as necessary at the time of closure based upon site-specific conditions. Landfill gas management systems shall:
 1. Be designed to prevent the concentration of combustible gases generated by the landfill from:

- a. Exceeding twenty-five percent of the lower explosive limit for combustible gases in structures on- or off-site, excluding gas control or recovery components; and
- b. Exceeding the lower explosive limit for combustible gases at or beyond the landfill property boundary;
- 2. Be designed for site-specific conditions;
- 3. Be designed to reduce gas pressure in the interior of the landfill by collecting the gases to prevent them from moving laterally. Collection pipes, pathways, or vents shall collect gas from at least the uppermost two-thirds of the filled waste or where the more anaerobic conditions exist. Air shall not be forced into the collection system. Passive venting or suction shall be used to extract gas; and
- 4. Be designed to not interfere with or cause failure of the liner, leachate control systems or final cover.
 - (b) Flaring of landfill gases may be used as a method of gas control, particularly control of objectionable odors, in accordance with the permitting requirements of Chapter 62-296, F.A.C.
 - (c) Landfills using piping or a similar conduit to convey gas shall be furnished with a positive means of gas condensate collection and disposal at each low point in the conveyance system.
- 6) The Solid Waste Section relies on the Air Program to ensure compliance with Chapter 62-296, F.A.C. That Chapter does not have a special section about landfill emissions.
- 7) The Solid Waste Section is still awaiting the submittal of the "Intermediate Modification to Operation Permit for Installation of LFG pipeline from the LFG Blower and Flare Station to CHSEC property line for transmission of LFG to OUC". This was an Action Item agreed to during the Pre-Application Meeting held on May 27, 2009 at FDEP Central District Office.
- 8) See additional comments throughout the draft Air Program responses below.

Tom Lubozynski
 Waste Program Administrator
 Sept 28, 2009

AIR PROGRAM RESPONSES 9(Provided to Tom Lubozynski on Aug 12, 2009)

FLARE CONTROL DEVICE:

Pages 8 to 13 are related the Flare Control Device. John Turner's review of those pages indicates present flare operation is probably compliant, but a visible emission observation and testing on the flare is needed. However, **the current flare does not meet the WWW requirement based on the maximum expected flow rate of this cell. The County must submit an application for the construction of a flare designed to meet the maximum expect flow rate and have it installed by the time the cell meets its 5 year threshold.**

CONSTRUCTION REQUIREMENTS OF EXISITING LANDFILL GAS COLLECTION SYSTEM:

The evaluation should be done by the Solid Waste, but air will provide some comments and questions for the SW Section response.

Planned LFG Utilization System, Page 3:

1. The on-site treatment system is subject to NSPS, and must be covered under AC and TV permit.

2. All emissions from any atmospheric vent from the gas treatment system shall be routed back to the flare or applicable control.
3. The pipeline beyond the treatment would not be covered under the NSPS

Comparison of Existing Cell 9 LFG Collection System with Federal Title V, WWW Requirements

1. The County evaluated 60.759 System Requirements and 60.753 Operation Requirements. The Compliance Provisions under 60.755 should also be addressed.
2. 60.759 a1 Response, Pages 4-5:
 - a. Are extraction devices of adequate density throughout all gas producing areas?
 - b. The County did not say whether the professional engineer has certified that the collection devices within the interior and along the perimeter areas achieve comprehensive control of surface gas emissions. Response says that all of the "issues" have been considered, but not "addressed".

Solid Waste Comment: 60.759(a)(1) states:

(1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.

We believe this has been met. Whenever a PE signs and seals the design it indicates that all those factors were taken into account. SW does not check the assumptions or repeat the calculations. If you want them to clarify whether all issues were "addressed," then include in your request for additional information.

3. 60.759 a2 Response, Page 5:

Solid Waste Comment: 60.759(a)(2) states:

(2) The sufficient density of gas collection devices determined in paragraph (a)(1) of this section shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

We believe this has been met.

4. Indicates that compliance is also dependent on an operator action.

Solid waste: No comment; compliance is always dependent on operator action.

5. 60.759 b1, Pages 5-6: Should be addressed by SW section

Solid Waste Comment: 60.759(b)(1) states:

(1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant

material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

We believe this has been met. Whenever a PE signs and seals the design it indicates that all those factors were taken into account. SW does not check the assumptions or repeat the calculations.

6. 60.759 b2, Page 6: No Vertical Wells- Rules say vertical wells shall be placed.....
Section 60.755 requires (a)(2) for the purposes of determining sufficient density of gas collectors for compliance with condition 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of **vertical wells**, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from **all portions of the landfill** sufficient to meet all operational and performance standards.

Solid Waste Comment: The Air Program is misinterpreting the terminology in the rule. The rule does not mandate vertical wells. Horizontal collectors, can also perform the same functions as vertical wells, that is, they extract the landfill gas from throughout the waste cell. The Solid Waste Section accepts that if horizontal collectors (which can also be called horizontal wells) are used, vertical wells are not necessary.

The gas collection system is designed to collect the gas from all portions of all the disposal cells.

7. 60.759 b3, Page 6: Should be addressed by SW Section
Solid Waste Comment: 60.759(b)(3) states:

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

We believe these requirements have been met. However, we did not check for a sampling port since that is not important to the Solid Waste Section. If that is important for your permit, the Air Program should check for it.

8. 60.759 c1, Page 7: County used CH2M 1998 model. See EPA model: <http://www.epa.gov/nrmrl/pubs/600r05047/600r05047.pdf>, May 2005. The County's estimated maximum flow is indicated at 2,250 scfm or maybe greater, and the existing flare has a peak capacity of 1,200 scfm. There is a current measured flow of 900 scfm.

60.752(b)(ii)(A)(1) requires the active collection system be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;

The current flare does not meet this WWW requirement.

Solid Waste comment: We do not understand why the Air Program makes this comment. Why does it matter that the current flare does not meet the requirement? The application is for a 4000 SCFM flare. If they construct the new flare they will be able to come back into compliance.

Section 60.755 Requires the specified methods in paragraphs (a)(1) through (a)(6) of this section shall be used to determine whether the gas collection system is in compliance with Sec. 60.752(b)(2)(ii). (a)(1).

(iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in conditions (a)(1) (i) and (ii) of this section. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in conditions (a)(1) (i) or (ii) or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment. [Rule 62-204.800, F.A.C.; 40 CFR 60.755(a)(1)]

(2) For the purposes of determining sufficient density of gas collectors for compliance with condition 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of **vertical wells**, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from **all portions of the landfill** sufficient to meet all operational and performance standards.

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with condition 60.752(b)(2)(ii)(A)(3), the owner or operator shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under condition 60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards.

60.755(b) For purposes of compliance with condition 60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in condition 60.752(b)(2)(i). Each well shall be installed within 60 days of the date in which the initial solid waste has been in place for a period of:

- (1) 5 years or more if active; or
- (2) 2 years or more if closed or at final grade.

Solid Waste comment: We do not know why the Air program quoted the above requirements. Do you have a question that needs to be answered? Do you think Orange County landfill does not comply with some aspect of the requirements cited? If so, what?

The Solid Waste Section has permitted the construction and operation of the landfill gas collection system for Cells 9-12. The design meets the solid waste requirements. We believe the design engineer made sure the requirements of 40 CFR 60.579 were met. The design uses horizontal collectors (aka, wells) so no vertical wells are necessary. That is acceptable. The LFG collection system was designed to remove LFG from throughout all portions of the cells. We believe the initial installation of the LFG collection system met 40 CFR 60.755(b) requirements. Continued installation of additional horizontal collectors ensures current compliance with 40 CFR 60.755(b).

You decide whether your Air permit must require specific conditions about the pressure testing of the system (item (3) above). That is not a requirement for the solid waste permit.

OPERATIONAL COMPLIANCE OF EXISTING SYSTEM

1. 60.753(a), Page 7 -There are no vertical wells. (see above)

Solid Waste Comment: The Air Program is misinterpreting the terminology in the rule. The rule does not mandate vertical wells. Horizontal collectors, can also perform the same functions as vertical wells, that is, they extract the landfill gas from throughout the waste cell. The Solid Waste Section accepts that if horizontal collectors (which can also be called horizontal wells) are used, vertical wells are not necessary.

2. 60.753(b1-3,c), Page 7 The data do not show operation parameters met at all times, but repairs and maintenance has been observed.
3. 60.753(c2) No comment
4. 60.753(d) Since the surface monitoring is not done, a determination of compliance cannot be made regarding this. Once the requirement date is met, the County is required to immediately perform the monitoring. Though monitoring is done quarterly, it should be submitted semi-annually.
5. 60.753(d) – No comment
6. 60.753(f) – No comment
7. 60.753(g) – This is applicable to the monthly pressure, temperature, oxygen, and quarterly surface monitoring and application corrective actions are required.

Solid Waste comment: 40 CFR 60.753 is an Air program requirement. These conditions should be in the Air Permit; they are not in the Solid Waste permit. If you want our Solid Waste inspectors to check compliance with certain aspects of your Air Permit, we need to set up the necessary cross training.

Agner, Tracy

From: Jim.Becker@ocfl.net
Sent: Thursday, September 17, 2009 10:54 AM
To: DEP_CDAIR
Subject: Read: 091609 ARCR.pdf (SECURED) - Adobe Acrobat Standard
Attachments: Read: 091609 ARCR.pdf (SECURED) - Adobe Acrobat Standard

Importance: High

PLEASE NOTE: Florida has a very broad public records law (F. S. 119).
All e-mails to and from County Officials are kept as a public record.
Your e-mail communications, including your e-mail address may be disclosed to the public and
media at any time.

Agner, Tracy

From: Dan.Morrical@ocfl.net
Sent: Wednesday, September 16, 2009 2:18 PM
To: DEP_CDAIR
Subject: Out of Office AutoReply: 091609 ARCR.pdf (SECURED) - Adobe Acrobat Standard

I am out of the office and plan to return Wednesday, September 16. If you need immediate assistance, please contact Everett Robinson at 407-836-6608 or Jim Flynt at 407-836-6605.

PLEASE NOTE: Florida has a very broad public records law (F. S. 119). All e-mails to and from County Officials are kept as a public record. Your e-mail communications, including your e-mail address may be disclosed to the public and media at any time.



Florida Department of Environmental Protection

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

AIR RESOURCES COMPLETENESS REVIEW

SOURCE NAME: Orange County Board of County Commissioners

APPLICANT: James W. Becker, Division Manger
Orange County Solid Waste Division
(jim.becker@ocfl.net)

ADDRESS: 5901 Young Pine Road
Orlando, FL 32829

DATE RECEIVED: 8/28/09

FILE: 0950113-005-AC

PROJECT: Flare Construction

FAX: 407/836-6629

Your application for this project has been received and reviewed by this office. The following items are needed to complete the application.

- ✓ 1. Per 40 CFR 60.752(b)(2)(iii)(A), submit information about the flare that clarifies whether it will meet the applicable requirements of 40 CFR 60.18.
- ✓ 2. Submit information that clarifies whether the applicable monitoring requirements of 40 CFR 60.756 will be met.

Pursuant to Rule 62-4.055, the applicant shall have ninety days after the Department mails a timely request for additional information to submit that information to the Department. If an applicant requires more than ninety days in which to respond to a request for additional information, the applicant may notify the Department in writing of the circumstances, at which time the application shall be held in active status for one additional period of up to ninety days. Additional extensions shall be granted for good cause shown by the applicant. A showing that the applicant is making a diligent effort to obtain the requested additional information shall constitute good cause. Failure of an applicant to provide the timely requested information by the applicable deadline shall result in denial of the application.

If you have any questions regarding this letter, please fax me at 407.897.5963 or write to me at the above address.

Sincerely,

for Alan Zahm, P.E.
Permitting Supervisor

9/16/09

Date

Jt J7

cc: Mehran S. Beladi, P.E. (ron.beladi@neel-schaffer.com)
Dan Morrical (dan.morrical@ocfl.net)



UTILITIES DEPARTMENT • SOLID WASTE DIVISION

James W. Becker, Manager

9150 Curry Ford Road
Orlando, Florida 32825
Telephone 407-254-9662
Fax: 407-254-9658
Email: Jim.Becker@ocfl.net

August 25, 2009

Mrs. Caroline Shine, P.E.

Program Administrator

Air Resources Management Section, Central District

Florida Department of Environmental Protection (FDEP)

3319 Maguire Blvd., Suite 232

Orlando, FL 32803-3767

RECEIVED
AUG 28 2009
DEP Central Dist.

Subject: **FDEP Application for Air Construction Permit
Cells 9-12 Class I Landfill- Southern Expansion Site (SES)
Title V Air Operations Permit No. 0950113-004-AV**
Orange County Solid Waste Management Facility
Orange County, Florida

Dear Mrs. Shine:

In accordance with our discussions in the May 27, 2009 pre-application meeting, we hereby submit three (3) copies of the FDEP application for an air construction permit to construct the permanent emissions control flare for the purpose of combusting the LFG collected from Cells 9-12 on the OCSWMF South Expansion Site. This application submittal contains the Air Construction Checklist (Form 62-210.900(1) with attachments. We have confirmed with Air Section staff that no application fee is required as Cell 9 emission control was included in the 2006 Title V Air Operation Permit Application for the OCSWMF.

Orange County has entered into an agreement with the Orlando Utilities Commission (OUC) for beneficial utilization of the collected LFG from Cells 9-12. The collected LFG is planned to be transmitted to the Curtis H. Stanton Energy Center (CHSEC) for use as fuel in generation of electricity.

This application is for an Air Construction Permit to construct a 4,000 SCFM landfill gas (LFG) flare to combust LFG collected from the Southern Expansion Site (SES), Class I solid waste disposal Cells 9-12, at the OCSWMF. This flare will serve as the primary control device for LFG collected from the SES until a proposed LFG-to-Energy (LFGTE) Project is constructed to deliver the LFG collected from Cells 9-12 to CHSEC. Once the LFGTE project commences operation, the 4,000 SCFM flare will serve as a backup control device to combust surplus LFG not used by the LFGTE System, or when the LFGTE System is offline for maintenance.

If you have any questions or comments, please contact me at your convenience.

Sincerely,

James W. Becker

Attachments

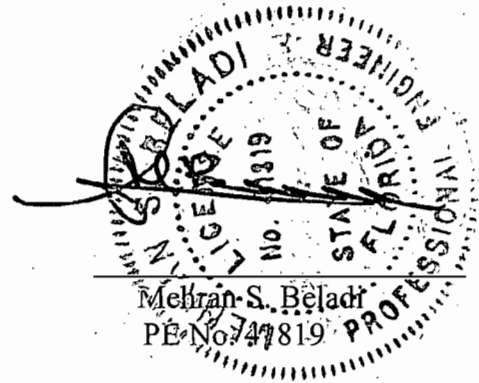
- c: F. Thomas Lubozynski, P.E., Waste Program Administrator, FDEP Central District
- Dan Morrical, Chief Engineer, Orange County Utilities-Solid Waste Division
- Jim Flynt, P.E., Sr. Engineer, Orange County Utilities-Solid Waste Division
- Ron Beladi, P.E., CH2M/Neel-Schaffer-Joint Venture
- Bo Bruner, P.E., CH2M/Neel-Schaffer-Joint Venture

**FDEP Application for
Title-V Air Construction Permit
For Landfill Gas Flare**

**Cells 9-12 Class I Landfill
Southern Expansion Site
Orange County Solid Waste Management
Facility**

Orange County, Florida

Title-V Air Operation Permit No. 0950113-004-AV



August 25, 2009

Date

**CH2M/NEEL-SCHAFFER- Joint Venture
2301 Lucien Way, Suite 300
Maitland, Florida, 32751**

Table of Contents

Application for Air Permit – FDEP Form No. 62-210.900(1)

Attachments

Attachment 1	Facility Plot Plan and Process Flow Diagram
Attachment 2	Precautions to Prevent Emissions of Unconfined Particulate Matter
Attachment 3	Description of Proposed Construction, Modification, or Plant-wide Applicability Limit
Attachment 4	Rule Applicability Analysis
Attachment 5	Fuel Analysis or Specification
Attachment 6	Description of Control Equipment
Attachment 7	Procedures for Startup and Shutdown
Attachment 8	Operation and Maintenance Plan

APPLICATION INFORMATION

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Orange County Board of County Commissioners	
2. Site Name: Orange County Solid Waste Management Facility ("OCSWMF")	
3. Facility Identification Number: 0950113	
4. Facility Location... Street Address or Other Locator: 5901 Young Pine Road City: Orlando County: Orange Zip Code: 32829	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: Mr. James W. Becker, Solid Waste Division Manager	
2. Application Contact Mailing Address: Organization/Firm: Orange County Utilities Solid Waste Division Street Address: 5901 Young Pine Road City: Orlando State: Florida Zip Code: 32829	
3. Application Contact Telephone Numbers... Telephone: (407) 836-6600 ext. Fax: (407) 836-6629 -	
4. Application Contact E-mail Address: <u>jim.becker@ocfl.net</u> Please send electronic copies of all correspondence to Mr. Dan Morrical, Chief Engineer: <u>Dan.Morrical@ocfl.net</u> ; and to Mr. James W. Flynt, Senior Engineer <u>James.flynt@ocfl.net</u>	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.
 - I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application is for an air construction permit to construct a 4,000 SCFM landfill gas (LFG) candlestick open flare to combust LFG collected from the Southern Expansion Site (SES), Class I solid waste disposal Cells 9-12, at the OCSWMF. This flare will be permanent and serve as the primary control device for LFG collected from the SES Cells 9-12 until a proposed LFG-to-Energy (LFGTE) Project is constructed to deliver the LFG collected from SES Cells 9-12 to Curtis H. Stanton energy Center (CHSEC) for use as fuel in power generation. Once the LFGTE project commences operation, the 4,000 SCFM flare will serve as a backup control device to combust surplus LFG not used by the LFGTE System, or when the LFGTE System is offline for maintenance.

The current 1,200 SCFM temporary odor control flare will be removed from the OCSWMF once the permanent 4,000 SCFM flare is brought on line. As-build documents will be submitted as part of FDEP application for air permit for inclusion of the permanent flare in the current OCSWMF Title V Operation Permit.

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
001	Municipal solid waste landfill with candlestick flares	AC1C	\$0.00
	EU001-D: 4,000 SCFM permanent candlestick flare		

Application Processing Fee

Check one: Attached - Amount: \$ 0.00 Not Applicable-

Confirmed the requirement for application fee with Mr. John Turner, Air Compliance Section, FDEP Central Florida District, June 9, 2009. The Facility is currently a Title V Facility.

Owner/Authorized Representative Statement

**Complete if applying for an air construction permit or an initial FESOP.
Air Construction Permit**

1. Owner/Authorized Representative Name :

Orange County Solid Waste Division/ Mr. James W. Becker, Division Manager

2. Owner/Authorized Representative Mailing Address:

Organization/Firm: **Orange County Utilities Department Solid Waste Division**

Street Address: **5901 Young Pine Road**

City: **Orlando** State: **Florida** Zip Code: **32829**

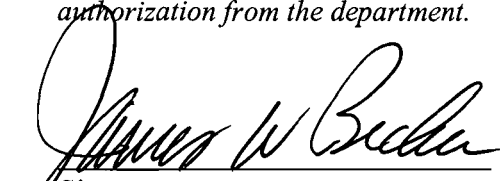
3. Owner/Authorized Representative Telephone Numbers.

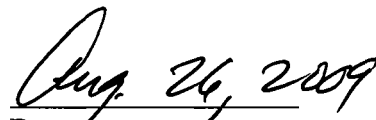
Telephone: **(407) 836-6600** Fax: **(407) 836-6629**

4. Owner/Authorized Representative E-mail Address: **jim.becker@ocfl.net**

5. Owner/Authorized Representative Statement:

I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.


Signature


Date

Application Responsible Official Certification – NOT APPLICABLE TO AIR CONSTRUCTION PERMIT APPLICATION , NO CONCURRENT PROCESSING

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the “application responsible official” need not be the “primary responsible official.”

1. Application Responsible Official Name:
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.
3. Application Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
4. Application Responsible Official Telephone Numbers... Telephone: () - ext. Fax: () -
5. Application Responsible Official E-mail Address:
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i> _____ Signature _____ Date

Professional Engineer Certification

1. Professional Engineer Name: **Mehran S. (Ron) Beladi, P.E.**
Registration Number: **PE 41819**

2. Professional Engineer Mailing Address:
Organization/Firm: **Neel-Schaffer, Inc.**
Street Address: **2301 Lucien Way , suite 300**
City: **Maitland** State: **Florida** Zip Code: **32751**

3. Professional Engineer Telephone No.: **(407) 647-6623** Fax: **(407) 539-0575**

4. Professional Engineer E-mail Address: **ron.beladi@neel-schaffer.com**

5. Professional Engineer Statement:
I, the undersigned, hereby certify, except as particularly noted herein, that:*

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

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

(3) *If the purpose of this application is to obtain a Title V air operation permit (check here , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained; will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.*

(4) *If the purpose of this application is to obtain an air construction permit (check here , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.*

(5) *If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*

Signature _____
(seal)



August 24, 2008
Date _____

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: This facility exceeds the minimum design capacity threshold and is subject to Title V permitting. This facility is subject to the New Source Performance Standards (NSPS) for solid waste landfills, promulgated by USEPA under 40 CFR 60 Subpart WWW.	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
CO	A	N
NO _x	B	N
PM10	A	N
SO2	B	N
VOC	B	N
HAPS	B	N
H009	B	N
H017	B	N
H032	B	N
H033	B	N
H034	B	N
H041	B	N
H043	B	N
H085	B	N
H088	B	N
H089	B	N
H094	B	N
H118	B	N
H119	B	N
H120	B	N
H123	B	N
H156	B	N
H166	B	N
H167	B	N
H169	B	N
H175	B	N
H184	B	N
H186	B	N

List of pollutants taken From FDEP's 2008 Annual Operating Report (AOR) for Air Pollutant Emitting Facility (see Attachment 9.) Pollutants listed as "Not Applicable" in past Annual Operating Reports for the facility are not included in this list. Note that the LFG Emissions from Class 1 Cell 9 in SES are similar in composition to emissions from Cell 7B/8 and Cell A-K in the Original 1500-acre Landfill at OCSWMF.

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Attachment 1 <input type="checkbox"/> Previously Submitted, Date: _____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Attachment 1(Cells 9-12 Blower/ Flare Station) <input type="checkbox"/> Previously Submitted, Date: _____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Attachment 2 <input type="checkbox"/> Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input checked="" type="checkbox"/> Attached, Document ID: Attachment 3
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: Attachment 4
4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications NOT APPLICABLE

1. List of Exempt Emissions Units:

- Attached, Document ID: _____ Not Applicable (no exempt units at facility)

Additional Requirements-Title V Air Operation Permit Applications-NOT APPLICABLE

1. List of Insignificant Activities: (Required for initial/renewal applications only)

- Attached, Document ID: _____ Not Applicable (revision application)

2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)

Attached, Document ID: _____

Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)

Attached, Document ID: _____

Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)

Attached, Document ID: _____

Equipment/Activities Onsite but Not Required to be Individually Listed

Not Applicable

5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)

Attached, Document ID: _____ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:

Attached, Document ID: _____ Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not an Acid Rain source)

Phase II NO_x Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a Hg Budget unit)

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [1] of [1]

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [1] of [1]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification-

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
<input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
<input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)			
<input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).			
<input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.			
<input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.			
2. Description of Emissions Unit Addressed in this Section:			
4,000 SCFM Landfill Gas Candlestick Flare			
3. Emissions Unit Identification Number: EU 001-D			
4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	Nov 2009	Dec 2009	49
8. Federal Program Applicability: (Check all that apply)			
<input type="checkbox"/> Acid Rain Unit			
<input type="checkbox"/> CAIR Unit			
<input type="checkbox"/> Hg Budget Unit			
9. Package Unit: To be determined			
Manufacturer: Perennial Energy, Inc.		Model Number: To be determined	
10. Generator Nameplate Rating: To be determined			
11. Emissions Unit Comment: The proposed 4,000 SCFM flare will be the permanent replacement for the temporary odor control flare (EU001-C, or its temporary replacement.) The permanent flare will combust LFG collected from Cells 9-12. The permanent flare will be the primary control device for the SES until the proposed LFGTE project is brought on line; the permanent flare will then be used only on a backup basis.			

EMISSIONS UNIT INFORMATION

Section [1] of [1]

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description: <p style="text-align: center;">No add-on air pollutant emission controls will be installed on the proposed flare. The proposed flare, like the existing flares at the Orange County Landfill, will serve as a control device by reducing LFG and non-methane organic compound (NMOC) emissions from the landfill.</p>
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [1] of [1]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 4000 SCFM of LFG
2. Maximum Production Rate:
3. Maximum Heat Input Rate: 121.2 MMBtu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 8,760 hours/year
6. Operating Capacity/Schedule Comment: Initially, the 4,000 SCFM permanent flare will be used as the primary control system for Cells 9-12 LFG and it is anticipated that it will run 24 hours per day. Once the LFGTE System is constructed and operational, the flare will be available to run 24 hours per day as a backup, and will only be used when the LFGTE system is offline, or to combust surplus LFG not utilized by the LFGTE system.

EMISSIONS UNIT INFORMATION

Section [1] of [1]

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU001-D		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Proposed 4000 SCFM LFG Candle Stick Open Flare			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: estimated 40 feet high	7. Exit Diameter: 1.16 feet (estimate from Mfg. data)	
8. Exit Temperature: 1,200 °F	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet N/A	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Actual flare height and exit diameter will be determined by the flare vendor selected during the equipment procurement phase. The values listed above are estimated based on similar LFG flares operating at other landfill facilities. Exit diameter is typical of a 16-inch diameter open flare unit. The as-build information will be provided as part of the FDEP application for modification of the current OCSWMF Title V Operation Permit for operation of the permanent flare.			

EMISSIONS UNIT INFORMATION

Section [1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type): LFG collected from the SES Cells 9-12 will be combusted in the proposed 4,000 SCFM candlestick open flare.		
2. Source Classification Code (SCC): 5-01-04-10		3. SCC Units: million cubic feet of LFG
4. Maximum Hourly Rate: 0.24	5. Maximum Annual Rate: 2,102	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: > 0.01	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: 505
10. Segment Comment: Maximum Hourly Rate: $=(4,000 \text{ cf/min}) * (60 \text{ min/hr}) * (1 \text{ MM cf}/1,000,000 \text{ cf}) = 0.24 \text{ MM cf/hr}$ Maximum Annual Rate: $=(0.24 \text{ MMcf/hour}) * (8,760 \text{ hr/yr}) = 2,102 \text{ MM cf/yr}$ MMBtu/ SCC Unit: $=(1,010 \text{ Btu/cf CH}_4) * (0.5 \text{ cf CH}_4/\text{cf LFG}) * (1 \text{ MMBtu}/10^6 \text{ Btu}) = 505 \text{ MMBtu/MMcf LFG}$		

Segment Description and Rate: Segment __ of __ N/A

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment __ of __ N/A

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment __ of __ N/A

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control: Not Applicable	
3. Potential Emissions: 8.2 lb/hour 36.1 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.068 lb/MMbtu Reference: Manufacturers Guarantee- (Perennial Energy, Inc.)		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Potential Hourly Emissions: $=(4,000 \text{ ft}^3/\text{min})*(60 \text{ min/hr})*(505 \text{ Btu}/\text{ft}^3)*(MM\text{Btu}/10^6 \text{ Btu})*(0.068 \text{ lb}/MM\text{btu})$ $= 8.2 \text{ lb}/\text{NO}_x/\text{hr}$ Potential Annual Emissions: $=(8.2 \text{ lb NO}_x/\text{hr})*(8,760 \text{ hr}/\text{yr})*(ton/ 2,000 \text{ lb})$ $= 36.1 \text{ tons NO}_x/\text{yr}$			
11. Potential, Fugitive, and Actual Emissions Comment: The emissions information is based on the maximum capacity of the 4,000 SCFM flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 has been developed and is active at this time. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be substantially reduced.			

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

* revised per
RAI response
dated
10/9/09

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control: Not Applicable	
3. Potential Emissions: 44.8 * 18.2 lb/hour 196.4 * 79.6 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.15 * lb CO/MMbtu 0.37 * Zink		7. Emissions Method Code: 5	
Reference: Manufacturers Guarantee- (Perennial Energy, Inc.)			
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Potential Hourly Emissions: =(4,000 ft ³ / min)*(60 min/hr)(505 Btu/ ft ³)*(MMBtu/10 ⁶ Btu)*(0.15 lb/MMbtu) =18.18 lb CO/ hr Potential Annual Emissions: =(18.2 lb CO/hr)*(8,760 hr/yr)*(ton/ 2,000 lb) =79.6 tons CO/yr			
11. Potential, Fugitive, and Actual Emissions Comment: The emissions information is based on the maximum capacity of the 4,000 SCFM flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 has been developed and is active. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be reduced.			

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM₁₀		2. Total Percent Efficiency of Control: Not Applicable	
3. Potential Emissions: 2.0 lb/hour 8.9 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 17 lb/10⁶ dscf methane Reference: AP-42 Section 2.4 (Table 2.4-5)		7. Emissions Method Code: 3	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Potential Hourly Emissions PM₁₀: $=(17 \text{ lb}/10^6 \text{ scf CH}_4) * (0.50 \text{ ft}^3 \text{ CH}_4 / \text{ft}^3 \text{ LFG}) * (4,000 \text{ ft}^3 \text{ LFG} / \text{min}) * (60 \text{ min}/\text{hr})$ $= 2.0 \text{ lb} / \text{PM}_{10} / \text{hr}$ Potential Annual Emissions: $=(2.0 \text{ lb NO}_x / \text{hr}) * (8,760 \text{ hr}/\text{yr}) * (\text{ton} / 2000 \text{ lb})$ $= 8.9 \text{ tons PM}_{10} / \text{yr}$			
11. Potential, Fugitive, and Actual Emissions Comment: The emissions information is based on the maximum capacity of the 4,000 SCFM flare, which exceeds the current LFG generation rate for the SES. Actual initial emission levels will be lower than the values shown above because only Cell 9 is active at this time. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be reduced.			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

** revised per RAI response*

1. Pollutant Emitted: SO_x		2. Total Percent Efficiency of Control: 98 percent	
3. Potential Emissions: 7.3 * 1.7 lb/hour		32.1 * 7.6 tons/year	
		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year 200			
6. Emission Factor: 46.9 PPMV TRS, 98 % conversion rate to SO_x Reference: AP-42 Section 2.4 (Table 2.4.1) <i>site data</i>		7. Emissions Method Code: 3	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
<p>10. Calculation of Emissions:</p> $Q_s = (4,000 \text{ ft}^3/\text{min}) * (525,600 \text{ Min}/\text{yr}) * (\text{m}^3/35.3198 \text{ ft}^3) * (46.9 \text{ ppmvS}/10^6) = 2,792 \text{ m}^3/\text{yr S}$ $UM_s = (2,792 \text{ m}^3/\text{yr S}) * [(32 \text{ g}/\text{g-mol}) * (1 \text{ atm})] / [(8.205 \times 10^{-5} \text{ m}^3 - \text{atm}/\text{gmol-K}) * (1,000 \text{ g}/\text{kg}) * (273+39K)] = 3,503.41 \text{ kg S}/\text{yr}$ $CM \text{ SO}_x = (3,503.41 \text{ kg S}/\text{yr}) * (100/100) * (2.0 \text{ kg SO}_x/\text{kg S}) * (1-0.98 \text{ destruction efficiency}) = 140.14 \text{ kg}/\text{year}$ $\text{SO}_x \text{ (tpy)} = (140.14 \text{ kg SO}_x/\text{year}) * (2.2 \text{ lb}/\text{kg}) * (1 \text{ ton}/2,000 \text{ lb}) = 0.154 \text{ tons}/\text{yr}$ $\text{SO}_x \text{ (lb/hr)} = (0.154 \text{ tons}/\text{yr}) * (2,000 \text{ lb}/\text{ton}) * (\text{yr}/8,760 \text{ hr}) = 0.035 \text{ lb}/\text{hr}$			
<p>11. Potential, Fugitive, and Actual Emissions Comment:</p> <p>The emissions information is based on the maximum capacity of the 4,000 SCFM flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 is active at this time. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be reduced.</p>			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: VOC		2. Total Percent Efficiency of Control: 98 percent	
3. Potential Emissions: 0.23 lb/hour tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 232.05 VOC in Landfill Gas Reference: AP-42 Section 2.4, Table 2.4.2, footnote (c)		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
<p>10. Calculation of Emissions: $Q_{voc} = (4,000 \text{ ft}^3 / \text{min}) * (525,600 \text{ Min} / \text{yr}) * (\text{m}^3 / 35.3198 \text{ ft}^3) * (232.05 \text{ ppmv} / 10^6)$ $Q_{voc} = 13,813 \text{ m}^3 / \text{yr VOC}$</p> <p>$UM_s = (13,813 \text{ m}^3 / \text{yr VOC}) * [(86.18 \text{ g} / \text{g-mol}) * (1 \text{ atm})] / [(8.205 \times 10^{-5} \text{ m}^3 \cdot \text{atm} / \text{gmol} \cdot \text{K}) * (1,000 \text{ g} / \text{kg}) * (273 + 39 \text{K})] = 46,693 \text{ kg VOC} / \text{yr to flare}$</p> <p>$CM_{voc} = (46,693 \text{ Kg VOC} / \text{yr}) * (1 - 0.98 \text{ destruction efficiency}) = 933.9 \text{ kg} / \text{year}$</p> <p>$VOC \text{ (tpy)} = (933.9 \text{ kg VOC} / \text{year}) * (2.2 \text{ lb} / \text{kg}) * (\text{ton} / 2,000 \text{ lb}) = 1.03 \text{ tons} / \text{yr}$</p> <p>$VOC \text{ (lb/hr)} = (1.03 \text{ tons} / \text{yr}) * (2,000 \text{ lb} / \text{ton}) * (\text{yr} / 8760 \text{ hr}) = 0.23 \text{ lb} / \text{hr}$</p>			
<p>11. Potential, Fugitive, and Actual Emissions Comment: The emissions information is based on the maximum capacity of the 4,000 scfm flare, which exceeds the current LFG generation rate for the SES Cells 9-12. Actual initial emission levels will be lower than the values shown above because only Cell 9 is active at this time. In addition, after the LFGTE System is in operation, the hours of operation and the total flow to the flare will be reduced.</p>			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code: Not Applicable	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [1] of [1]

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation __ of __

1. Visible Emissions Subtype: VE 20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <20 % Exceptional Conditions: 0% Maximum Period of Excess Opacity Allowed: 5 min/ hr min/hour	
4. Method of Compliance: Visible emissions evaluation per EPA Method 22	
5. Visible Emissions Comment: Proposed allowable opacity is based on Rule 62- 296.320 (4)(b), F.A.C.	

Visible Emissions Limitation: Visible Emissions Limitation __ of __ **Not Applicable**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [1]

H. CONTINUOUS MONITOR INFORMATION-NOT APPLICABLE

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 1

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: Not Applicable	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [1]

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)-NOT APPLICABLE

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [1]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

<p>1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: Attachment 1 <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: Attachment 5 <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: Attachment 6 <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: Attachment 7 <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input type="checkbox"/> Not Applicable (construction application)</p>
<p>5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: Attachment 8 <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input type="checkbox"/> Not Applicable</p>
<p>6. Compliance Demonstration Reports/Records:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p>Test Date(s)/Pollutant(s) Tested: _____</p> <p><input type="checkbox"/> Previously Submitted, Date: _____</p> <p>Test Date(s)/Pollutant(s) Tested: _____</p> <p><input type="checkbox"/> To be Submitted, Date (if known): _____</p> <p>Test Date(s)/Pollutant(s) Tested: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p> <p>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.</p>
<p>7. Other Information Required by Rule or Statute:</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable</p>

EMISSIONS UNIT INFORMATION

Section [] of []

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

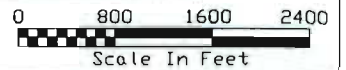
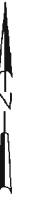
1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

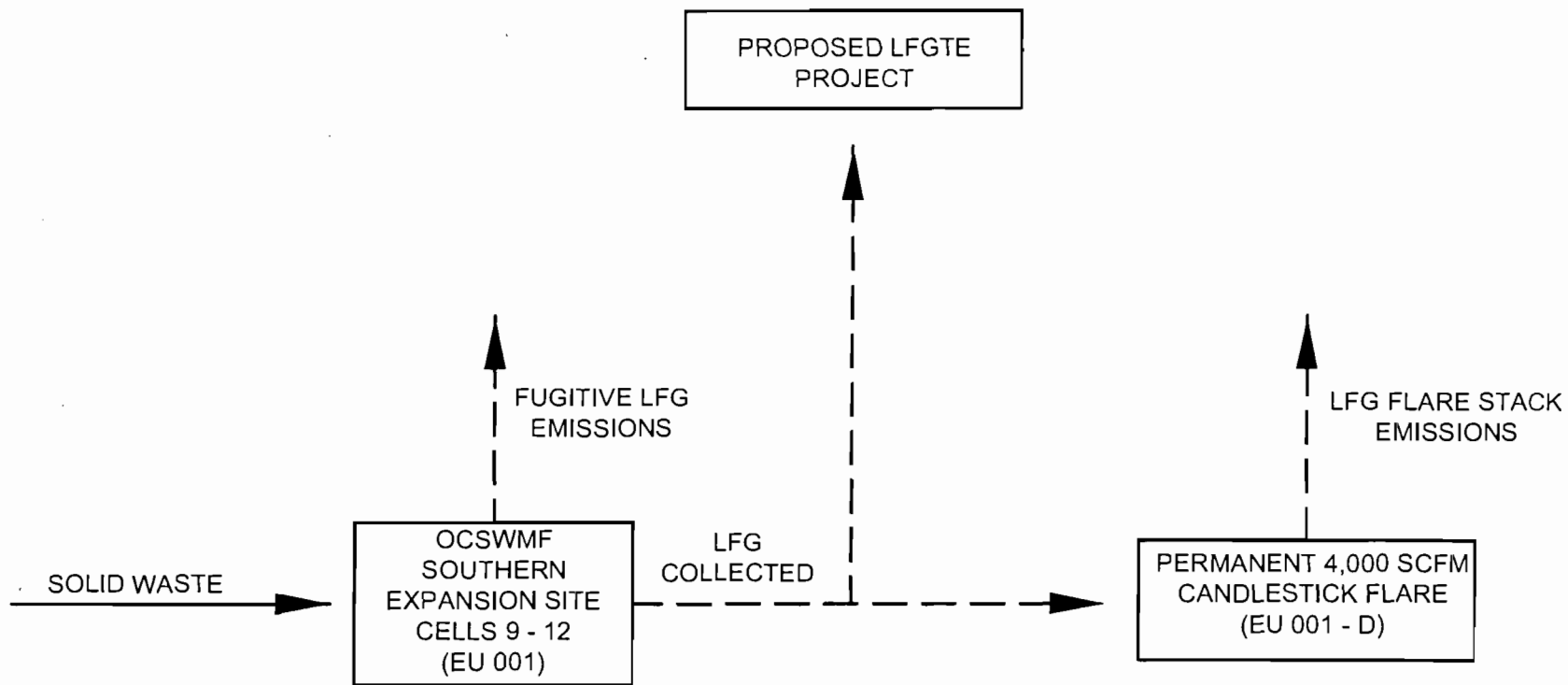
Additional Requirements Comment

The as-build information for the 4,000 SCFM candle stick open flare will be submitted as part of the FDEP application to revise the current OCSWMF Title-V Operation Permit for inclusion of the permanent flare.

ATTACHMENT 1

FACILITY PLOT PLAN AND PROCESS FLOW DIAGRAM





NOTES:

1. UPON STARTUP OF THE PROPOSED LFGTE PROJECT, THE CANDLESTICK FLARE (EU 001 - D) WILL BE USED AS A BACKUP CONTROL DEVICE.

FIGURE NO. 1-2. PROCESS FLOW DIAGRAM, ORANGE COUNTY SOLID WASTE MANAGEMENT FACILITY

ATTACHMENT 2

**PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED
PARTICULATE MATTER**

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Unconfined particulate matter emissions at the landfill are caused by wind erosion and vehicular traffic on unpaved roads around the active phases of the landfill. The proposed landfill gas flare will not contribute to emissions of unconfined particulate matter at the site.

Control of unconfined particulate matter emissions is achieved at the site through enforcing the proper speed limits on facility roads to minimize the fugitive dust emissions generated by vehicles. Paving and watering of unpaved roads are other means by which particulate matter emissions are minimized by Orange County. The frequency of watering varies with antecedent moisture and weather conditions at the solid waste management facility.

ATTACHMENT 3

**DESCRIPTION OF PROPOSED CONSTRUCTION, MODIFICATION,
OR PLANT-WIDE APPLICABILITY LIMIT**

PROPOSED CONSTRUCTION

The proposed construction under this permit application consists of a 4,000 SCFM flare with associated compressors and blower to control the LFG from Cells 9-12. The proposed flare is as follows:

1. A permanent landfill gas (LFG) candlestick flare with a rated capacity of 4,000 standard cubic feet per minute (SCFM) designated as EU 001-D in this application.

The 4,000 SCFM flare will serve as the primary control device for LFG collected from the SES Cells 9-12 until the proposed LFGTE project is constructed and operational. At that time the 4,000 SCFM candlestick flare will be used as a backup control device to combust LFG when the LFGTE System is offline or to combust surplus LFG not used.

FLARE POTENTIAL EMISSIONS

The potential emissions of the flare are based on the rated capacity of the flare, the heat content of the LFG, and the pertinent emission factors for each pollutant. The emission factors used to calculate the flare potential emissions are summarized below and consist of manufacturer guaranteed emission levels and factors obtained from U.S. EPA's *Compilation of Air Pollutant Emission Factors*, which is commonly referred to as AP-42.

Table 3.1
Emission Factors and Source

Pollutant	Emission Factor	Source
NOx	0.068 lb/MMBtu	Perennial Energy, Inc. Manufacturer's guarantee
CO	0.15 lb/MMBtu	Perennial Energy, Inc. Manufacturer's guarantee
	0.37 lb/MMBtu	Flare Manufacturer's guarantee (i.e. John Zink, LFG Specialties)
SOx	46.9 ppm TRS inlet, 98% conversion to SOx	AP-42
PM10	17 lb/MMscf CH4	AP-42
VOC	232 ppmv inlet, 98% DRE	AP-42

Based on a flow rate of 4,000 SCFM to the flare, an assumed methane content of 50 percent by volume, and a higher heating value of 1010 standard cubic foot of methane, the resulting flare potential emissions are as shown below in Table 3-2:

Table 3-2
4,000 SCFM Flare Potential Emissions

Estimated Emission Rates		
Pollutant	Pounds/Hour	Tons/Year
NOx	8.2	36.1
CO	18.2	79.6
SOx	0.035	0.15
PM10	2.0	8.9
VOC	0.23	1.0

ATTACHMENT 4
RULE APPLICABILITY ANALYSIS

IDENTIFICATION OF APPLICABLE REQUIREMENTS

APPLICABLE FEDERAL REQUIREMENTS

40 CFR 60, Subpart WWW

40 CFR 63, Subpart AAAA

40 CFR 60.1 - Applicability

40 CFR 60.7 - Notification of Record Keeping

40 CFR 60.8 - Performance Tests

40 CFR 60.11 - Compliance with Standards and Maintenance Requirements

40 CFR 60.12 - Circumvention

40 CFR 60.13 40 CFR 60.14 40 CFR 60.15 40 CFR 60.18 - General Control Device Requirements

APPLICABLE STATE OF FLORIDA RULES

62-4.030 - General Prohibitions

62-4.040 - Exemptions

62-4.090 - Permit Renewal

62-4.100 - Suspensions

62-4.120 - Transferability of Permit

62-4.130 - Plant Operation - Problems

62-4.160 - General Conditions

62-204.200 - Definitions 62-204.800 - Federal Regulations

62-210.200 - Definitions

62-210.200(198) - Objectionable Odor

62-210.370 - Reports 62-210.650 - Circumvention

62-210.700 - Excess Emissions

62-212.300 - Permits Required

62-213.205 - Annual Emissions Fee

62-213.400 - Permits and Permit Revisions Required

62-213.410 - Changes without Permit Revision 62-213.460 - Permit Shield

62-296.320(4) - Visible Emissions

62-297.310 - Compliance Tests

ATTACHMENT 5

FUEL ANALYSIS OR SPECIFICATION

FUEL ANALYSIS OR SPECIFICATION

The proposed candlestick flare will burn LFG, which consists primarily of methane and carbon dioxide. Methane typically constitutes approximately 40 to 60 percent of the LFG. Historically, the typical heating value for LFG generated at this facility is 500 to 550 Btu/scf.

ATTACHMENT 6

DESCRIPTION OF CONTROL EQUIPMENT

DESCRIPTION OF CONTROL EQUIPMENT

The proposed 4,000 SCFM candlestick open flare will serve as the primary control device for LFG emissions from the SES Cells 9-12 until the proposed LFGTE System is constructed and brought online. The LFGTE project is currently under design and procurement for construction by the Orlando Utilities Commission (OUC).

After the LFGTE System is operational, the 4,000 SCFM flare will be available as a back-up control device when the LFG cannot be accepted by the nearby Curtis H. Stanton Energy Center (CHSEC), or when the CHSEC cannot take all of the LFG available.

Once the permanent flare is installed, LFG collected from the horizontal collectors and future LFG extraction points will be routed to the new 4,000 SCFM candlestick flare for destruction. No add-on air pollutant emission controls will be installed on the flare.

The proposed new flare will be located adjacent to the existing temporary flare and connected to the existing LFG collection header.

ATTACHMENT 7

PROCEDURES FOR STARTUP AND SHUTDOWN

PROCEDURES FOR STARTUP AND SHUTDOWN

The proposed candlestick flare will be operated in accordance with the manufacturer's recommendations, including periods of startup and shutdown. These procedures will be documented in the operation and maintenance (O&M) manuals that will be provided by the manufacturer of the blower/flare station and will be maintained on site. In addition, because the facility is subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP), Orange County has implemented a Startup, Shutdown, and Malfunction (SSM) Plan for the landfill gas collection and control system.

Startup and Shutdown Procedures will be similar as the current John Zink Co-constructed flare installed and operated for collection of Cell 7B/8 and Cell A-K LFG at the Orange County Solid Waste Management Facility. The Procedures for Startup and Shutdown for the Cell 7B/8 and Cell A-K Flare were presented in Exhibit I of the 2006 Air Operation Permit Application.

The Procedures for Startup and Shutdown for the 4,000 SCFM flare for Cells 9-12 will be presented as part of the FDEP application for revision of the current OCSWMF Title-V Air Operation Permit for inclusion of the permanent flare.

ATTACHMENT 8
OPERATION AND MAINTENANCE PLAN

OPERATION AND MAINTENANCE PLAN

The proposed new candlestick flare will be operated and maintained in accordance with standard industry practices and the procedures outlined in the manufacturer's O&M manuals, which will be maintained on site.

Letter of Transmittal



Neel-Schaffer, Inc.
 2301 Lucien Way, Suite 300
 Maitland, Florida 32751
 Phone: (407) 647-6623
 Fax: (407) 539-0575

TO Ms. Caroline Shine, PE
 Program Administrator Air Resources

RECEIVED

AUG 28 2009

August 27, 2009

Florida Department of Environmental Protection (FDEP)

00.07499.000

DEP Central Dist.

Central Florida District

FDEP Application for Title V Air
 Construction Permit

3319 Maguire Boulevard, Suite 232

Orlando, Florida 32803-3767

Cells 9-12 Class I Landfill

WE ARE SENDING YOU THE FOLLOWING:

Submittal No.		Attached	Separately via:
<input type="checkbox"/>	Shop Drawings	<input type="checkbox"/>	<input type="checkbox"/> Specifications
<input type="checkbox"/>	Copy of Letter	<input type="checkbox"/> Plans	<input type="checkbox"/> Other: _____
<input type="checkbox"/>		<input type="checkbox"/> Change Order	

O= Original	These are transmitted as checked below: <input type="checkbox"/> As Requested <input type="checkbox"/> For Approval/Execution <input type="checkbox"/> For Review & Comment <input type="checkbox"/> For Use/Information
PC= Photocopy	
PR= Print	
R= Reproducible	

No.	Type	Date	Description

REMARKS:

ATTACHED IS A COPY OF THE FDEP APPLICATION FOR TITLE V AIR CONSTRUCTION PERMIT LANDFILL GAS FLARE - CELLS 9-12 CLASS I LANDFILL, ORANGE COUNTY, FLORIDA

Copy: _____ **NEEL-SCHAFFER, INC.**

By: Letty Soto

If enclosures are not as noted, please notify us at once.