Florida Department of Environmental Protection

Memorandum

To: Trina Vielhauer

Through: Al Linero

From: Teresa Heron

Date: February 1, 2010

SUBJECT: Draft Permit No. 0930104-014-AC (PSD-FL-382)
Okeechobee Landfill Gas (LFG) to Energy Project

Attached for your review is a draft PSD air construction permit package for a LFG to energy project at the Waste Management Okeechobee Landfill. The draft permit requires prompt installation of a desulfurization system to address past SO_2 increases not exempted from PSD by the pollution control project rule and authorizes the near-term construction of four combustion turbines and five backup open flares to combust the desulfurized LFG.

The attached Technical Evaluation and Preliminary Determination (TEPD) document provides a detailed description of the project and the rationale for permit issuance. The TEPD document also addresses the long-term plans for LFG to energy and includes associated air quality modeling.

I recommend your approval of the attached draft permit package.

Attachments

TLV/aal/tmh

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.

Executed in Tallahassee, Florida.

Trina L Vielhauer

Trina Vielhauer, Chief
Bureau of Air Regulation

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 with Appendices) 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 2/1/10 to the persons listed below.

John Van Gessel, Waste Management of Florida, Inc: jvangessel@wm.com
Heather Abrams, U.S. EPA Region 4: abrams.heather@epa.gov
Kathleen Forney, U.S. EPA Region 4: forney.kathleen@epa.gov
Dee Morse, National Park Service, Denver CO: dee_morse@nps.gov
Lennon Anderson, DEP SED: lennon.anderson@dep.state.fl.us
David Buff, P.E., Golder Associates, Inc. dbuff@golder.com

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

(Clerk) 2/1/10 (Date)

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 the address or phone number listed above. 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 and requests for a public meeting for a period of 30 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 this 30-day period. In addition, if a public meeting is requested within the 30-day comment period and conducted by the Permitting Authority, any oral and written comments received during the public meeting will also be considered by the Permitting Authority. If timely received comments 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, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241; Fax: 850/245-2303). 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 fourteen 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; (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

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blairstone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor
Jeff Kottkamp
Lt. Governor
Michael W. Sole
Secretary

Mr. John Van Gessel, Vice President
Waste Management, Inc. of Florida
2859 West Paces Ferry Road, Suite 1600
Atlanta, Georgia 30339

Re: Draft Air Permit No. 0930104-014-AC (PSD-FL-382)
Okeechobee Landfill
Landfill Gas to Energy (LFGTE) Project

Dear Mr. Van Gessel:

On November 12, 2008, you submitted a revised application for an air construction permit subject to the preconstruction review requirements of Rule 62-212.400, Florida Administrative Code, for the Prevention of Significant Deterioration (PSD) of Air Quality.

The purpose of the project is to construct a LFGTE plant including a desulfurization system, combustion turbines and backup flares at the Okeechobee Landfill, which is located at 10800 Northeast 128th Avenue, Okeechobee, Florida.

Enclosed are the following documents: Written Notice of Intent to Issue Air Permit; Public Notice of Intent to Issue Air Permit; Technical Evaluation and Preliminary Determination; and Draft Permit with Appendices.

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 Alvaro Linero at 850/921-9523 or Teresa Heron at 850/921-9529.

Sincerely,

Trina L. Vielhauer 2/1/10

Trina L. Vielhauer, Chief (Date)
Bureau of Air Regulation

Enclosures

TLV/aal/th

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

In the Matter of an
Application for Air Permit by:

Okeechobee Landfill, Inc.
c/o Waste Management, Inc. of Florida
2859 West Paces Ferry Road, Suite 1600
Atlanta, Georgia 30339

Draft Permit No. 0930104-014-AC
PSD-FL-382
Landfill Gas to Energy Project
Okeechobee Landfill
Okeechobee County

Authorized Representative:
Mr. John Van Gessel, Vice President

Facility Location: Okeechobee Landfill, Inc. is a Waste Management company that operates the existing Okeechobee Landfill located in Okeechobee County at 10800 NE 128th Street, Okeechobee, Florida.

Project: The project is the construction of a landfill gas (LFG) to energy plant including: a LFG desulfurization system; LFG-fueled combustion turbine-electrical generators; and backup flares to accommodate LFG generation and collection from waste disposal at the existing Okeechobee Landfill. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

The project is subject to the preconstruction review requirements of Rule 62-212.400, Florida Administrative Code (F.A.C.), Prevention of Significant Deterioration (PSD). A determination of best available control technology (BACT) was required.

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, 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 Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114.

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 and phone number listed above.

Notice of Intent to Issue Air 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 applicable 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

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Division of Air Resource Management, Bureau of Air Regulation

Draft Permit No. 0930104-014-AC / PSD-FL-382

Okeechobee Landfill, Inc.
Okeechobee County, Florida

Applicant: The applicant for this project is Okeechobee Landfill, Inc. The applicant's authorized representative and mailing address is: John Van Gessel, Vice President, Waste Management Inc. of Florida, 2859 West Paces Ferry Road, Suite 1600, Atlanta, Georgia 30339.

Facility Location: The Okeechobee Landfill (OL) is located in Okeechobee County at 10800 Northeast 128th Street, Okeechobee, Florida.

Project: The near-term project involves the construction and installation of the following equipment for a Landfill Gas-to-Energy (LFGTE) plant to process and combust 13,500 standard cubic feet per minute (scfm) of LFG at the OL: a landfill gas (LFG) desulfurization plant (GDP) to remove hydrogen sulfide (H_2S) in the LFG; one LFG-fueled 15 megawatt (MW) Solar Titan 130 combustion turbine-electrical generator (CTG); and three LFG-fueled 3.5 MW Solar Centaur 40 CTG ; and five backup open flares.

LFG generated at the OL is collected and flared to control non-methane organic compounds (NMOC) and odors. The flares primarily emit sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), particulate matter (PM/PM_{10}), hydrogen chloride (HCl) and volatile organic compounds (VOC). The existing flares and the proposed LFGTE project are subject to review pursuant to rule Rule 62-212.400, F.A.C for the Prevention of Significant Deterioration (PSD). A determination of best available control technology (BACT) was required.

Emission estimates (excluding fugitive emissions) based on the 2007 and 2008 annual operating reports submitted by the applicant are summarized in the table below. The potential emissions after the near-term project are included.

Pollutant	2007-08 TPY	Near-Term TPY	PSD Significant Emission Rate, TPY	PSD Review Required?
CO	246	913	100	Yes
NO_X	50	343	40	Yes
PM/PM_{10}	14	40	25/15	Yes
SO_2	1,236	239	40	Yes
VOC	~2	4	40	No

Although emissions of SO_2 will be reduced, the Department requires installation of a GDP whether or not a LFGTE project is constructed. The reason is that past projects at the OL triggered PSD and a BACT determination is required for those projects. The Department's BACT determination for SO_2 will reduce near term SO_2 emissions to approximately half the levels estimated by the applicant.

The applicant submitted an air quality analysis representing an interim period prior to operation of the GDP during which emissions will be less (e.g. 959 TPY of SO_2) than during 2007-2008 because of lower projected solid waste disposal rates and gas flow. The applicant also submitted an air quality analysis reflecting the long-term build out of the OL. The analysis indicated compliance with the National Air Quality Standards (NAAQS) and allowable increments thus providing reasonable assurance of compliance by the near-term project.

The following table shows the maximum predicted Class II PSD increments in micrograms per cubic meter ($\mu g/m^3$) and the percent (%) of the allowable increment consumed by sources in the area including interim and future emissions from the OL.

(Public Notice to be Published in the Newspaper)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Summary of PSD Class II Increment Analysis

Pollutant	Averaging Time	Allowable Increment ($\mu g/m^3$)	Increment Consumed ($\mu g/m^3$)	Increment Consumed Percent
NO_2	Annual	25	11	45
PM_{10}	24-hour	30	6	20
	Annual	17	1	6
SO_2	3-hour	512	139	27
	24-hour	91	83	91
	Annual	20	14	70

The Class II increments represent the increment consumed in the vicinity of the project. Based on the modeled results, emissions from the OL after the near-term project will not significantly contribute to, or cause a violation of, any state or federal ambient air quality standards.

The applicant also provided a Class I increment analysis for the Everglades National Park (ENP). The maximum predicted Class I increments due to the project alone are less than significant.

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, 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 Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114.

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 and phone number listed above. In addition, electronic copies of these documents are available on the following web site:

www.dep.state.fl.us/Air/emission/construction/okeechobee.htm

Notice of Intent to Issue Air 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 applicable 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 and requests for a public meeting for a period of 30 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 this 30-day period. In addition, if a public meeting is requested within the 30-day comment period and conducted by the Permitting Authority, any oral and written comments received during the public meeting will also be considered by the Permitting Authority. If timely received comments 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, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241; Fax: 850/245-2303). 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 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; (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 in this proceeding.

TECHNICAL EVALUATION

&

PRELIMINARY DETERMINATION

APPLICANT

Okeechobee Landfill, Inc.
A Waste Management Company
2859 West Paces Ferry Road, Suite 1600
Atlanta, Georgia 30339

Okeechobee Landfill
ARMS Facility ID No. 0930104

PROJECT

Draft Permit No. PSD-FL-382
Project No. 0930104-014-AC

Landfill Gas to Energy Project

COUNTY

Okeechobee County

PERMITTING AUTHORITY

Florida Department of Environmental Protection (FDEP)
Division of Air Resource Management
Bureau of Air Regulation
Special Projects Section
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

February 1, 2010

1. GENERAL PROJECT INFORMATION

1.1 Facility Description and Location

The Okeechobee Landfill (OL) is located in Okeechobee County. The main entrance is approximately 3.5 miles north of State Road (SR) 70 at 10800 Northeast 128th Avenue. The landfill has a Standard Industrial Classification Code (SIC) of No. 4953. The UTM coordinates are Zone 17; 530.28 km East and 3023.96 km North. The location of Okeechobee County is shown in Figure 1 below. The location of the landfill within Okeechobee County is shown in Figure 2.

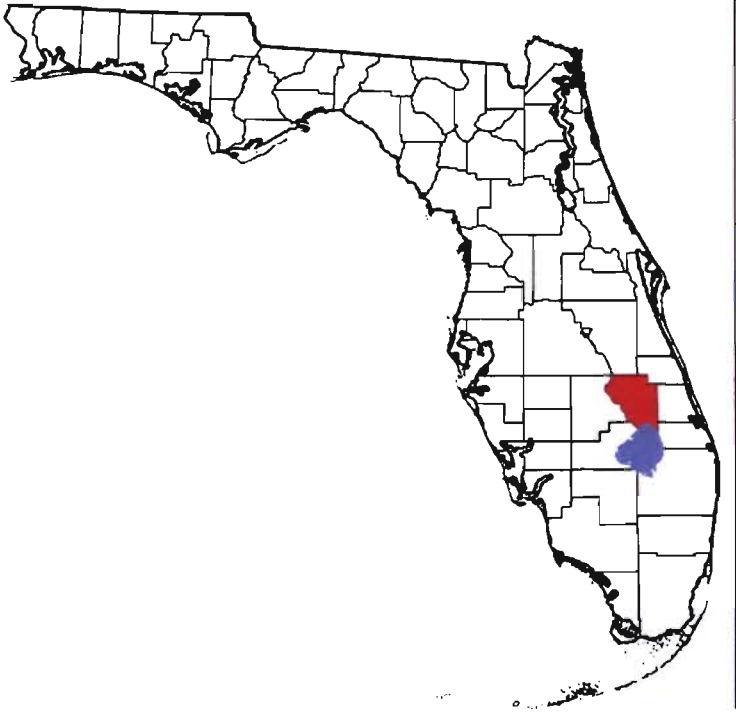


Figure 1 - Okeechobee County, Florida

Figure 2 - Location of Okeechobee Landfill

The landfill is operated by Okeechobee Landfill, Inc. (OLI), a Waste Management Company. Communications regarding this project are through Waste Management, Inc. (WMI). In this discussion, the more familiar WMI name is used. The OL comprises the Berman Road Landfill and the authorized development known as the Clay Farms Landfill. The total OL comprises 847 acres within 4150 acres owned by the applicant. The property boundary actually extends south to SR 70 and east into neighboring St. Lucie County.

The terrain surrounding the facility is mostly flat with terrain heights reaching 60 feet within 5 kilometers (km) from the property boundary line. The vegetation is mostly grassland. Land use in the surrounding area is mostly rural. A large water body (Lake Okeechobee) is located approximately 30 km southwest of the facility.

The nearest Class I area is the large Everglades National Park (ENP) that straddles Monroe, Collier and Miami-Dade Counties. The nearest boundary point in the ENP is located approximately 169 km south of the southernmost property boundary of the facility. Biscayne Bay National Park, a Class II National Park, is located approximately 193 km from the facility towards the southwest. Big Cypress National Preserve is located approximately 121 km from the facility.

Figure 3 – The Berman Road Landfill

Okeechobee County operated a small 2-cell, 10-acre landfill on the Berman Road site beginning in 1982 and closing in 1990. The site was acquired and operated soon thereafter by companies that ultimately became part of WMI. A solid waste permit was issued in 1992 by the Department to operate/construct a 30-acre, 900 tons per day (TPD) landfill.

Figure 3 above shows the present 208-acre, 35-cell, 10,000 TPD Berman Road Landfill. Figure 4 below shows the landfill gas collection and control system (LFGCCS) for the Berman Road Landfill which is still under construction. The points are individual wells while the lines convey landfill gas (LFG) to flares.

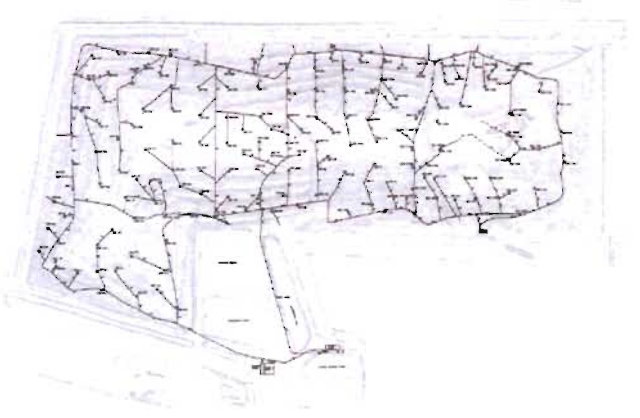


Figure 4–LFGCCS under Continuous Expansion

Figure 5 shows the ultimate Berman Road Landfill development and the more recently authorized 639-acre development known as the Clay Farms Landfill that will begin accepting waste around 2012.

Although the two landfills presently hold separate solid waste permits, they are considered a single facility (the OL) for the purposes of air permitting.

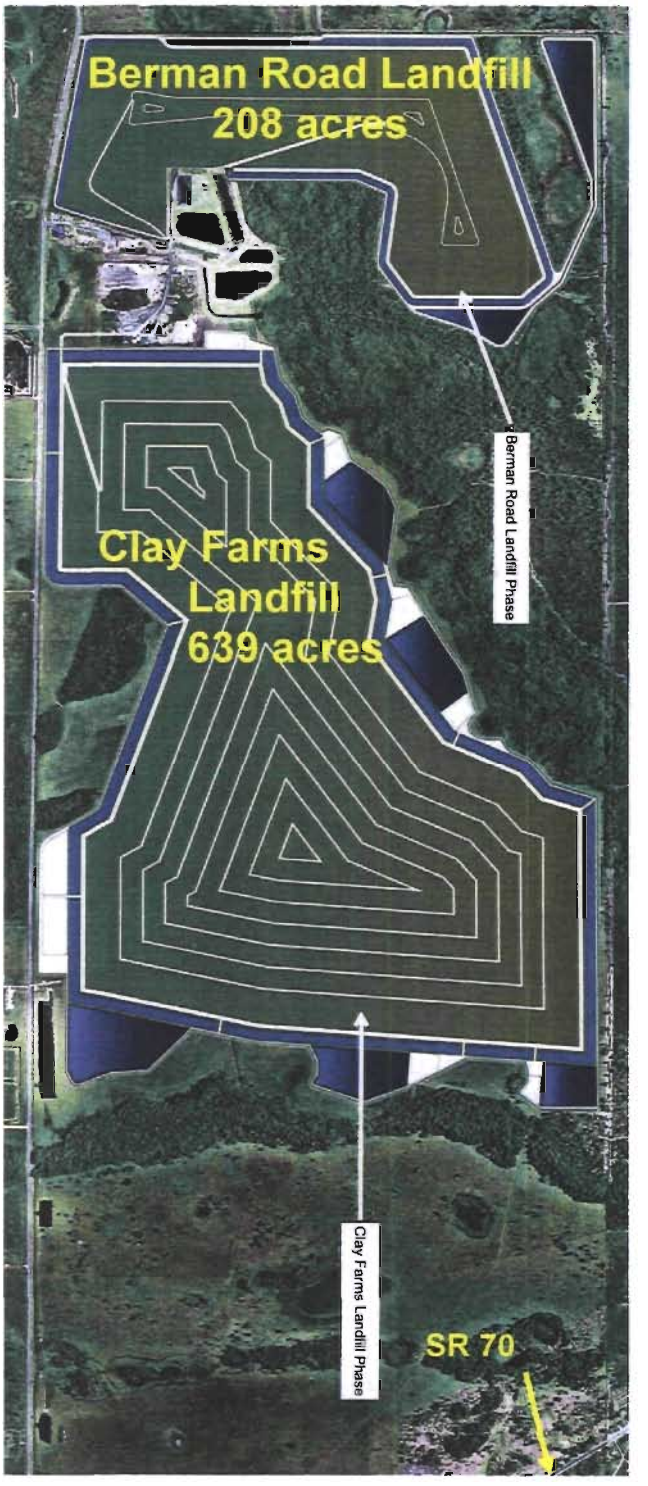


Figure 5 – Aerial View of Ultimate OL development

1.2 Present Process Description

The OL receives waste from central and southern Florida. Wastes including municipal solid waste (MSW), construction and demolition (C&D) material and special wastes are received over scales at the entrance to the landfill. Trucks are directed to the operating face of the above-grade landfill for the actual disposal.

Waste is spread in layers, compacted and covered with soil. The compacted layers compose the landfill building blocks called cells. A cell is a constructed lined area where waste is placed. Synthetic liners of high density polyethylene contain liquid (leachate) produced from waste decomposition. Waste is covered at the end of each day with soil or an approved alternative daily cover such as temporary plastic sheets. When the final permitted elevations and grades of the waste are reached, the landfill is capped. The cap systems, similar to the cell liners, are constructed of a low-permeable soil or a synthetic liner.

The waste flow is variable depending on contracts, general economic activity, hurricane debris generation, etc. Waste flow during 2005 was on the order of 5,000 to 10,000 tons per day (TPD) and 2 million tons per year (TPY) and was projected to increase at the time the application was submitted. The remaining capacity of the OL is more than 125 million tons. A description of the wastes accepted at the OL and other information is available at:

www.wmdisposal.com/static/files/fact_sheets/Okeechobee_Landfill.pdf

LFG is generated from the deposited waste. There is an extensive LFGCCS consisting of more than 200 gas extraction wells and three permanent flares. Until recently, leachate was collected and transported to a Publicly Owned Treatment Works (POTW) or evaporated on-site in systems that use LFG as a source of heat. A deep well for leachate injection started up in 2009. A network of 24 groundwater wells is regularly sampled to monitor groundwater quality around the perimeter of the landfill.

The following table is a list of the emissions units (EU) authorized at the OL. The three permanent flares are listed as EU 003, 004 and 005. Two additional open flares (CD-04 and CD-05) were authorized for temporary use to control odor by a settlement agreement between WMI and the Department (Reference: OGC-04-0094A dated 03/10/2005 and OGC-04-0094B dated 01/22/2007). The same agreement allowed the backup open flare (EU 004) to be used as needed to back up CD-04 and CD-05.

Table 1 – Presently Authorized Emissions Units at the Okeechobee Landfill

EU ID No.	Emissions Unit Description
001	Municipal solid waste landfill with LFG collection system (LFGCS).
003	Enclosed flare with a capacity of 3,000 standard cubic feet per minute (scfm) and including a leachate evaporation unit.
004	Backup open flare with a capacity of 2,800 scfm.
005	Enclosed flare with a capacity of 3,000 scfm and including a leachate evaporation unit.
CD-04	Temporary open flare with a capacity of 3,300 scfm for odor control.
CD-05	Temporary open flare with a capacity of 3,000 scfm for odor control.

Tables 2 and 3 summarize some of the key Department authorizations associated with the OL. Most of the operational limitations and expansion authorizations are given in the landfill operation permits (SO and SC permits) issued by the Department's Southeast District Solid waste Section. The air permits include construction permits (AC permits), Title V operation permits (AV permits). Certain Department Office of General Counsel (OGC) actions are included.

Table 2 – Key Department Authorizations (Air) Applicable to the Okeechobee Landfill

E.U. ID No.	Description	Permit No.	Reference Dates	Notes
001	LGCCS including 1,500 scfm enclosed flare	0930104-001-AC	05/13/1997	First air construction permit
001	Landfill and one flare	0930104-002-AV	12/16/1997	Initial Title V (TV) Permit
002	1,500 scfm enclosed flare	0930104-003-AC	05/01/1998	EU 002 separated from 001
002 003	1,500 scfm enclosed flare 3,000 scfm enclosed flare	0930104-004-AC 0930104-005-AC	07/23/2001	EU 002 operational EU 003 operational 6/2002
004	3,000 scfm open flare	0930104-007-AC	04/15/2003	EU 004 operational 1998 Backup to EU 002, 003
001 002 003 004	Landfill and 1,500 scfm enclosed flare 3,000 scfm enclosed flare 3,000 scfm open flare	0930104-006-AV	08/08/2003	TV Renewal Permit
002 005	3,000 scfm enclosed flare	0930104-010-AC	09/29/2003	EU 005 replaced EU 002 EU 005 operational 2003
005	3,000 scfm enclosed flare	0930104-011-AV	01/16/2004	TV Revision Permit
CD-04	Temporary odor flare	OGC 04-0094A	06/28/2006	Requires PSD application
004 CD-05	3,000 scfm open flare and 2nd Temporary odor flare	OGC 04-0094B	01/17/2007	Allowed continuous use of backup EU 004 as-needed. CD-05 not constructed. Requires PSD application
001 - 031	Landfill Gas to Energy	0930104-014-AC PSD-FL-382	Present Project	
001 003 004 005 CD-04 CD-05	Landfill and Flares (all relate to Berman Site)	0930104-016-AV	08/22/2008	TV Renewal Permit

Figure 6 below is a depiction of the present configuration. Figures 7, 8 and 9 are photographs of the Berman Phase, an enclosed flare (EU 003) and an odor control flare (CD-04).

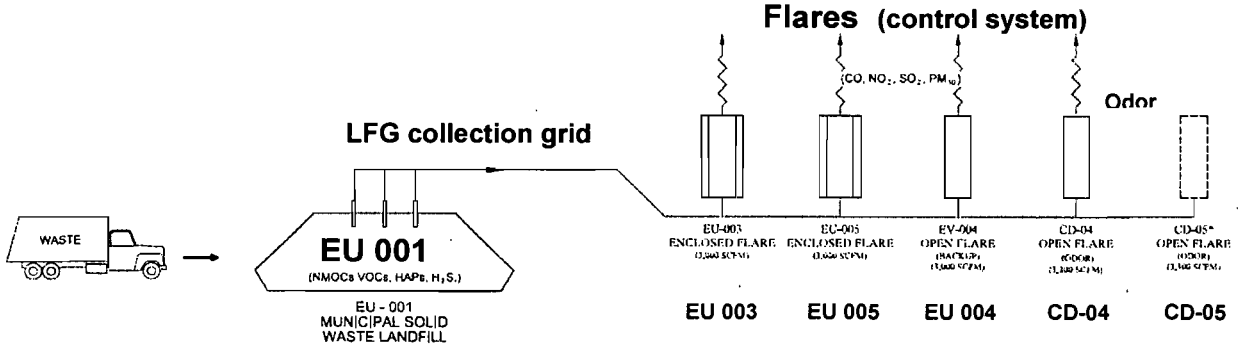


Figure 6 – Process Flow Diagram of Existing Configuration at the Okeechobee Landfill

Table 3 – Key Department Authorizations (Solid Waste) Applicable to the Okeechobee Landfill

Site	Description	Permit No.	Reference Dates	Notes
Berman	10 acre, 2-cell landfill	SF47-170390	02/12/1990	Close facility operated by Okeechobee County
Berman	900 TPD, 8-cell, 30 acre, landfill	SO47-211115	07/21/1992	Issued to CWSF
Berman	Landfill	SO47-295975	11/19/1996	Gas Collection System
Berman	5,000 TPD landfill, increase from 47 to 194 acres	040842-001-SC	02/03/1998	Operate Cells 1-8 Construct Cells 9-34
Clay Farms	639 acre, 5,000 to 7,000 TPD landfill	040842-006-SC	06/04/2001	Same facility ID, different description than Berman
Berman	Landfill	040842-010-SC	04/15/2003	Construct and operate
Clay Farms	639 acre, 5,000 to 7,000 TPD Landfill	0247963-001-SC	12/02/2005	Different facility ID
Berman	Increase from 194 to 208 acres	040842-018-SC	06/18/2008	Add 14 acres, Cell 95 10,000 TPD for Cell 95
Berman	208 acres, 10,000 TPD	040842-021-SC	10/03/2008	Berman has 57.2 acres left 107 acres are lined
Berman	Not described	040842-023-SO	03/11/2009	Pug mill to hydrate fly ash

The combined Berman and Clay site (i.e. the OL) with solid waste permits comprises 847 acres.

Figure 7 – Berman Landfill Figure 8 – Existing Enclosed Flare Figure 9 – Temporary Odor Flare

1.3 Primary Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C.

2. PROJECT DESCRIPTION

2.1 Overall Description of Project

WMI submitted an application for an air construction permit subject to the preconstruction review requirements of the Prevention of Significant Deterioration (PSD) of Air Quality pursuant to Rule 62-212.400, F.A.C. The application fulfills: the requirement to apply for a PSD permit for the recently authorized temporary flares (CD-04 and CD-05); the duty to obtain a PSD permit for the existing landfill; and authorization for emissions related to the future expansion of the OL. The applicant proposes to construct a LFG to energy (LFGTE) plant at the existing site with an ultimate capacity of 67.5 megawatts (MW). The project includes:

- Expansion of the LFG collection grid as the existing landfill is expanded;
- Treatment and desulfurization of the collected LFG;
- Ultimate installation of 16 LFG-fueled combustion turbine-electrical generators (CTG);
- Replacement of existing flares with new flares at a central flaring area; and
- Installation of additional open flares at the central flaring area as backup to the CTG.

Table 4 is a list of the changes planned to existing EU at the OL and includes the new EU authorized by this project. The two authorized open odor control flares (CD-04 and CD-05) will be replaced by permanent open flares (EU 006 and 007). The applicant identified a *near-term project* reflecting what can be expected over a reasonable permit lifetime and a *long-term project* reflecting the life of the OL. The EU designated in bold red text represent the near-term project, while the EU in bold and underlined black text represent the additional changes that result in the long-term project. EU in strikeout format are enclosed flares that will be deactivated.

Table 4 – Changes to Present Emissions Units and Future Emissions Units at the Okeechobee Landfill

EU ID No.	Emissions Unit Description
001	Municipal solid waste landfill with LFGCS and new Gas Desulfurization Plant.
~~003~~	Enclosed flare deactivated/removed during the near term.
004 **(004A)** **(004B)**	Existing open backup flare with a capacity of 2,800 scfm to be replaced by two 1,500 scfm open flares (EU 004A, 004B). Initially only EU 004A will be installed.
~~005~~	Enclosed flare deactivated/removed during the near term.
006	Open flare with a capacity of 3,000 scfm. In lieu of temporary odor control flare CD-04.
007	Open flare with a capacity of 3,000 scfm. In lieu of temporary odor control flare CD-05.
008	Open flare with a capacity of 3,000 scfm.
009	Open flare with a capacity of 3,000 scfm.
010 – 015	Up to six additional future open flares, each with a capacity of 3,000 scfm.
016	One 15 MW Model Solar Titan 130 (T-130) CTG.
017 - 019	Three 3.5 MW Model Solar Centaur 40 (C-40) CTG.
020 - 031	Up to12 additional future 3.5 MW Model Solar Centaur 40 (C-40) CTG (or substitute models as approved by future permits and permit modifications).

The near-term and the long-term configurations including all flares and CTG are shown in Figure 10. The LFG will be directed to a gas desulfurization plant (GDP), where it will be treated prior to flaring or use as fuel in the described CTG. The EU designated in red in the diagram constitute the near-term project. The GDP, CTG and future flares will be located on the east side of the OL in an area south of the developed (Berman) part of the site as shown in Figure 11. The locations of existing flares are also shown.

The equipment in this project will be installed over a period of several years to decades depending upon the rate of solid waste disposal and gas generation. The GDP will be initially constructed of sufficient size to treat the LFG produced throughout the life and closure of the OL. The LFGTE plant will be constructed in steps beginning with a single T-130 CTG and three C-40 CTG. Over the life of the development, the applicant anticipates installing as many as 15 C-40 CTG. The future models may vary based on the future products available from several manufacturers. With a LFGTE plant, the flares are primarily included for backup purposes and to burn incremental amounts of LFG until another CTG is added.

2.2 LFG Treatment and Desulfurization

WMI proposes to install a GDP to remove H_2S from LFG and to control sulfur dioxide (SO_2) from the combustion devices whether they are flares or CTG. WMI is considering two types of GDP. One is based on a chemical process called LO-CAT®. The other is a biological process called the Paques/THIOPAQ® Process.

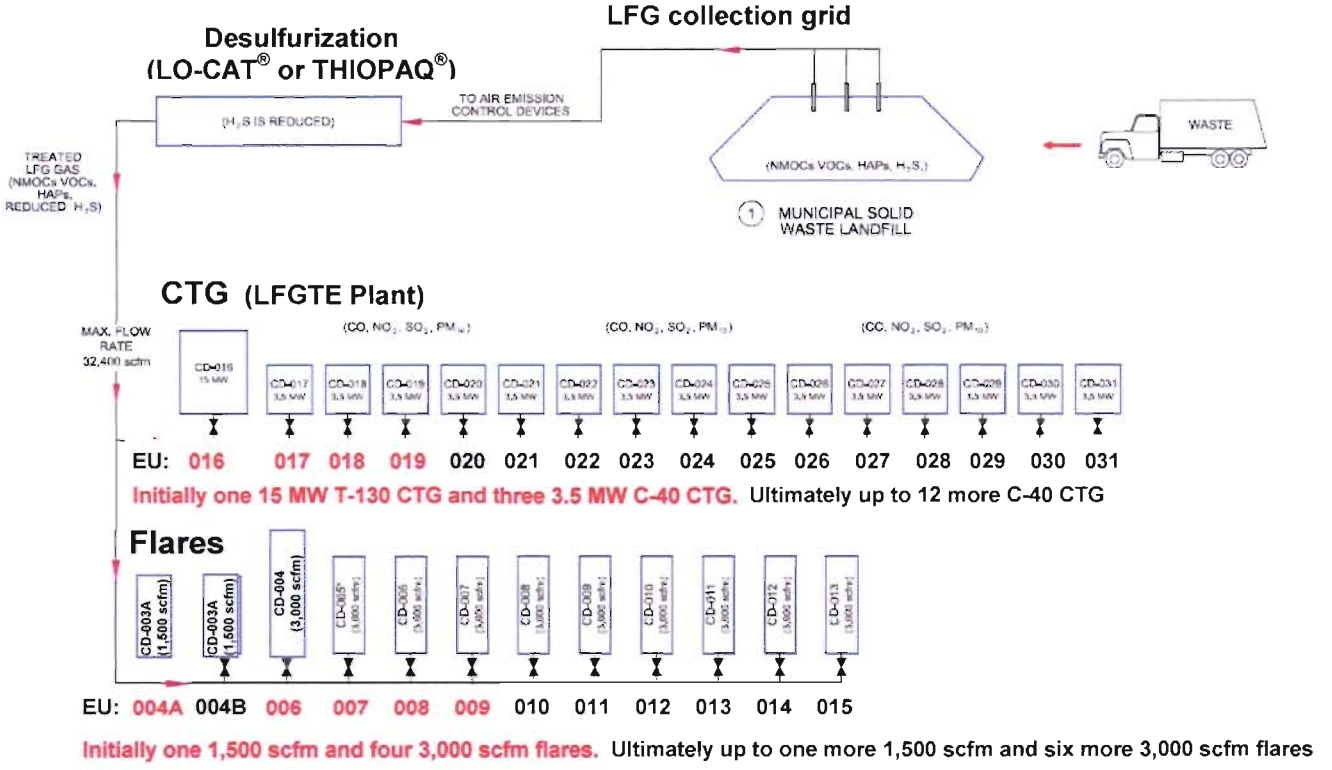


Figure 10 – Process Flow Diagram of Future LFGCCS and LFGTE Plant

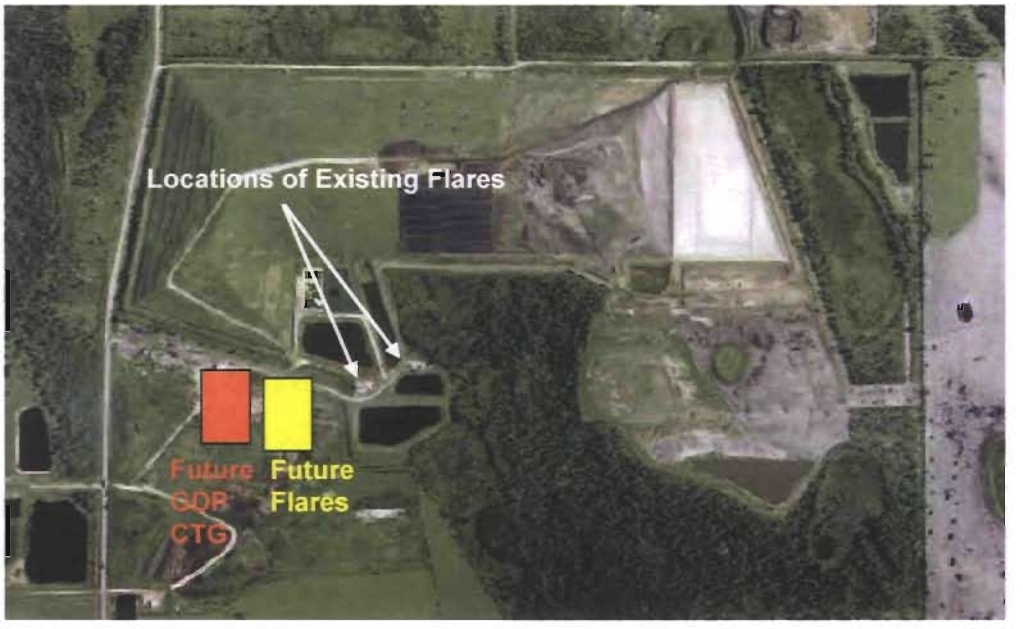


Figure 11 – Location of Existing and Future Flares, Future GDP, Future CTG

LO-CAT® Process

LO-CAT® solution is a catalytic reagent containing a proprietary biocide and surfactant to ensure that S sinks to the bottom of oxidizer from where it is removed as slurry. Figure 12 is a simplified process flow diagram of the LO-CAT® technology.

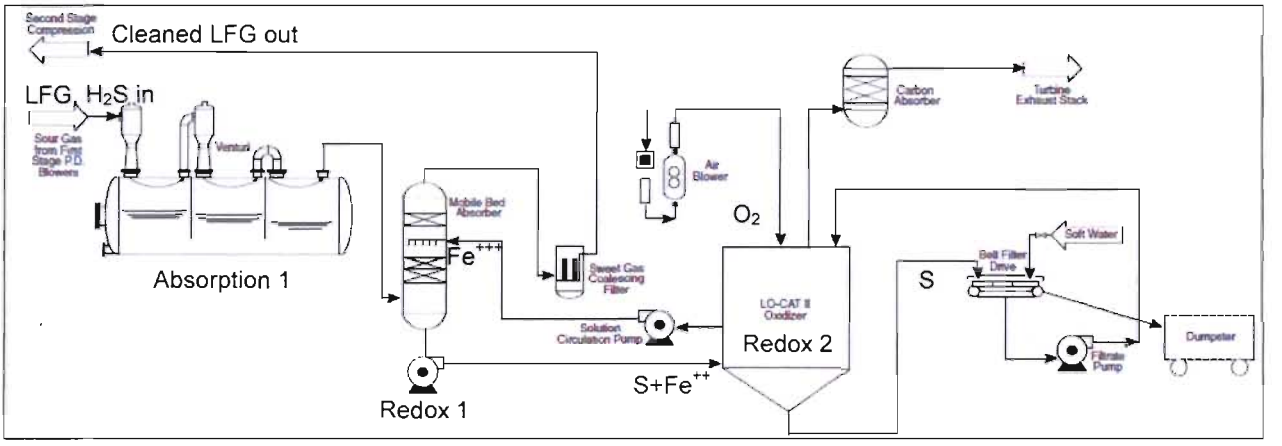


Figure 12 - LO-CAT® Simplified Process Flow Diagram

LO-CAT® is a chelated iron (Fe) liquid reduction and oxidation (redox) process that oxidizes sulfide in H_2S to elemental sulfur (S). The key reactions are:

Absorption 1: H_2S (gas) + H_2O (liquid) → H_2S (liquid) ↔ HS^- + H^+

Redox 1: HS^- + $2Fe^{+++}$ → S (solid) + $2Fe^{++}$ + H^+

Absorption 2: O_2 (air) + $2H_2O$ (liquid) ↔ O_2 (liquid)

Redox 2: O_2 (liquid) + 4 Fe^{++} + $2H_2O$ → $4Fe^{+++}$ + $2OH^-$ (regeneration of LO-CAT® solution)

Overall: $2H_2S$ (gas) + O_2 (gas) → S + H_2O

The solution uses ethylene diamine tetra-acetic acid (EDTA) as a chelating agent to maintain the ionic Fe concentration in solution at 500 to 1800 ppm. The solution serves as a catalyst in the reaction.

A LO-CAT® II plant was installed at the WMI Central Disposal Sanitary Landfill (CSDL) in Broward County, Florida in 1994 and has since operated in conjunction with three previously installed C-40 CTG. The following photographs were taken by Department personnel at the CDSL and show the key components of the LFGTE plant including the LO-CAT® II unit with backup open flare, sulfur product handling and one of the three C-40 CTG that together produce approximately 12 MW of electricity.

Figure 13 - LO-CAT® II at CDSL

Figure 14 – Sulfur Product

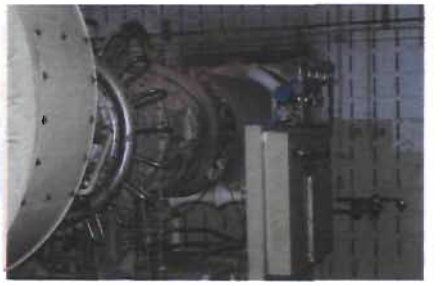


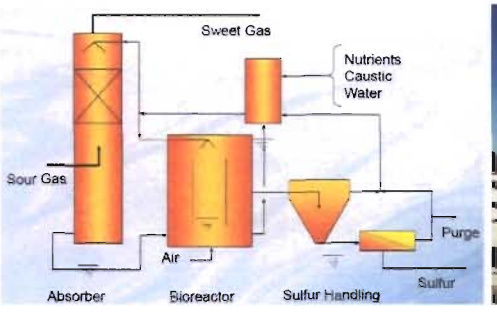
Figure 15 – LFG-fueled CTG

Paques/THIOPAQ® Process

Refer to Figure 16 below. According to Pacques (the owner of the technology):

"The H_2S containing gas enters the absorption section and is washed by scrubbing liquid (e.g. aqueous soda). The liquid has an alkaline nature and absorbs the H_2S. The biogas exits the top of the absorber virtually free of H_2S. The sulfide containing liquid flows into the bioreactor. In the reactor bacteria oxidize the sulfide with oxygen (supplied by air). The sulfur is then removed by use of a settler. The (regenerated) sulfide free liquid returns to the absorption section."

"The THIOPAQ® technology was originally developed for the purification of biogas produced during anaerobic waste water treatment. Similar gasses are biogas produced during solids digestion and landfill produced gas. Examples of successful application of the THIOPAQ® Process include water treatment plants in paper mills, distilleries, municipal sludge digestion plants and chemical industries. Gas-flows from 50 to 3500 normal cubic meters per hour (~30 to 2,000 scfm) are treated all over the world. The pressure of these gases is close to atmospheric. The biggest THIOPAQ® installation is capable of producing 14 tons of sulfur per day."



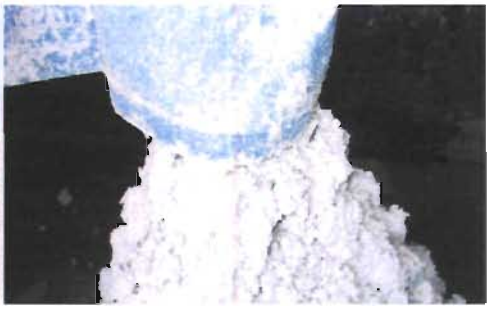


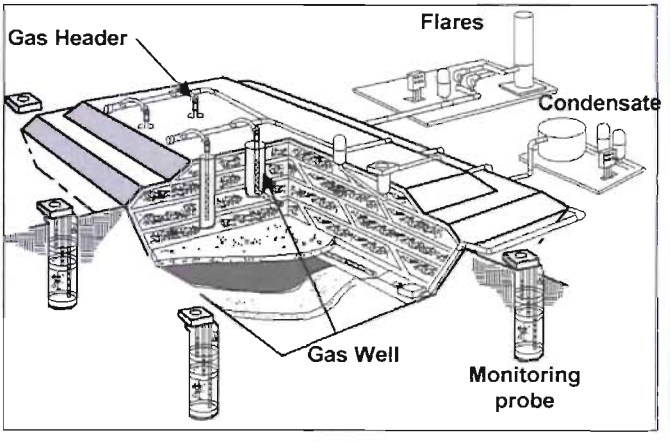
Figure 16 – THIOPAQ® Process Figure 17 – Cedar Rapids Unit Figure 18 - Sulfur Product

Further information is available at: www.paques.nl/?pid=57&parentid=56

Figure 17 is a picture of a THIOPAQ® installation located at the Cedar Rapids (Iowa) Water Pollution Control Facility (WPCA). Figure 18 is the sulfur product from a THIOPAQ installation.

2.3 LFG Combustion in CTG

Figure 19 shows a complete LFGCCS based on flaring. Figure 20 shows the LFGTE concept when using reciprocating engines but without desulfurization. There will be enough LFG generated from the OL at the start of the project to justify a single 15 MW T-130 CTG. Thereafter as many as fifteen of the smaller 3.5 MW C-40 CTG as LFG generation increases as described above.



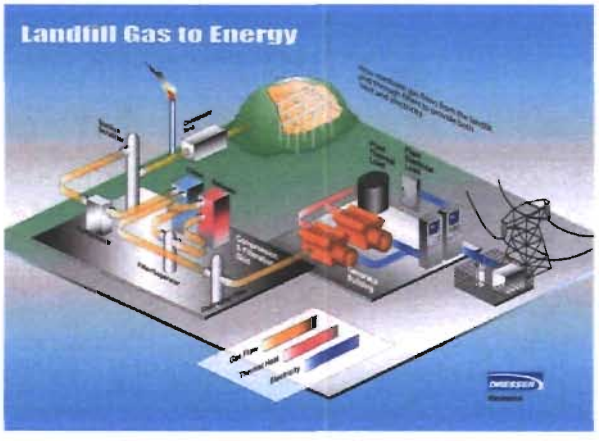


Figure 19 – Complete LFGCCS based on Flaring Figure 20 – LFGTE Plant with Backup Flaring

Figure 21 below is a diagram of the internal components of a T-130 CTG. Ambient air is drawn into the 14-stage compressor of the T-130 CTG and is compressed to a pressure ratio of 16 times atmospheric pressure. The compressed air is directed to the combustor section, where the fuel from the LFG compressors is introduced, ignited, and burned.

The hot combustion gases are then diluted with additional cooling air and directed to the rotor (expansion) section. Energy is recovered in the rotor section in the form of shaft horsepower, of which typically more than 50 percent is required to drive the internal compressor section. The balance of recovered shaft energy is available to drive the external load, which in this case is an electrical generator. Turbine exhaust gas (TEG) is discharged at a temperature greater than 900 °F.

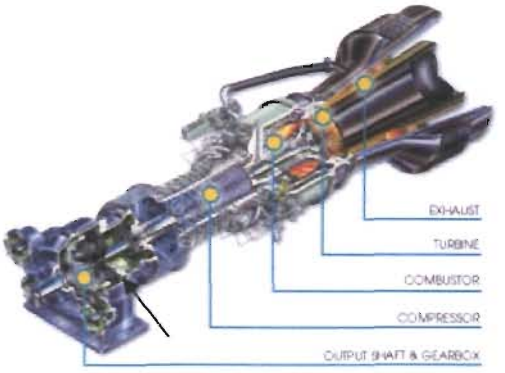


Figure 21 – Diagram of a T-130 CTG

Figure 22 – Natural Gas-fueled Combined Cycle T-130

Without heat recovery from the TEG (i.e. in simple cycle), the efficiency of the CTG is greater than 30% (based on higher heating value – HHV) when burning natural gas based on the electrical energy produced compared with the energy in the delivered gas. Configurations are available whereby such heat is recovered (i.e. combined cycle) and which result in an overall efficiency greater than 45% (based on HHV). An example of a T-130 is in combined cycle is shown in Figure 22 above.

For reference, LFG-fueled reciprocating internal compression engines (RICE) can be more energy efficient than a simple cycle LFG-fueled CTG. However CTG are less sensitive to low CH_4 concentrations than RICE and also tend to have better emission characteristics.

2.4 Different Development Scenarios

Although the applicant proposes to install a LFGTE plant, WMI requests a permit that provides for sufficient flaring capacity to completely back up the CTG with a margin of safety. According to WMI they would be required to back up all CTG with open flares anyway. The equipment scenario initially proposed by WMI for the life of the facility is summarized in the second row of Table 5. A more realistic equipment scenario based on present waste and gas flow was subsequently submitted to cover the life of the requested permit and is summarized in the third row. The corresponding gas flows for the two equipment scenarios are summarized in the fifth and sixth.

Table 5 – Summary of Development Scenarios to Combust Treated LFG from the OL

Type of Combustion Device	T-130 CTG	C-40 CTG	Open Flares		Total Flow (scfm) [1]
Flow per CTG or Flare (scfm)	5,000	1,500	3,000	1,500	
Near-Term Project (# of devices)	1	3	4	1	13,500
Long-Term Project (# of devices) [2]	1	15	10	2	32,500

1. Total flow assuming all CTG are fully utilized and any remaining flow is combusted in flares.
2. The figures for the long-term project include those of the near-term project.

The total flows above represent the upper bounds of total gas flows whether by CTG or flares. Regardless of the number of CTG or flares in operation, WMI will still need to treat all the LFG in a GDP using either by LO-CAT® or THIOPAQ® as a result of the best available control technology (BACT) determination discussed further below.

3. LFG GENERATION AND EMISSIONS

3.1 Generation of LFG

Landfill gas is generated by three main processes including:

- Primarily by decomposition by bacteria in the waste and landfill soil to methane (CH_4), carbon dioxide (CO_2) and minor constituents;
- Volatilization of solid and liquid organic compounds as non-methane organic compounds (NMOC);
- Reactions of chemicals in the waste such as ammonia (NH_3), chlorine bleach, etc. to produce gases including HAP.

Bacterial decomposition occurs in four phases as described below:

- Phase I - Aerobic decomposition by bacteria that consume oxygen (O_2) and break down long chain carbohydrates, proteins, and lipids to other organic compounds while generating CO_2;
- Phase II – Anaerobic decomposition by different bacteria of the products of the aerobic decomposition to acids and alcohols while generating CO_2 and hydrogen (H_2) and releasing nutrients that further feed and diversify bacteria;
- Phase III – Anaerobic decomposition of acids to acetates that are in-turn consumed by other bacteria to generate CH_4; and
- Phase IV – Relatively constant anaerobic CH_4 and CO_2 generation rate for about 20 years and further production for another 10 to 30 years.

Figure 23 shows the four phases and curves indicating the concentration of key gaseous constituents over time. Approximately equal concentrations of CH_4 and CO_2 that together comprise 90 to 95 percent (%) are present in Phase IV. The only minor constituent shown is nitrogen (N_2) at 2 to 5 percent (%). Oxygen (O_2) is fully depleted by Phase IV. Though not shown, hydrogen sulfide (H_2S) can be present at concentrations on the order of 10,000 parts per million by volume (ppmv) or 1% that must be considered from the standpoint of odor as well as potential emissions of PSD-pollutants upon combustion.

LFG expands and migrates through the pore spaces within the refuse and soils based on diffusion, pressure and permeability. The tendency is horizontal and upward migration with substantial emissions to the atmosphere. This movement can be influenced by application of vacuum within the landfill to cause the LFG to migrate towards wells and into a LFG collection header from which it is directed to flares.

3.2 Requirement to Collect and Control LFG

In 1996, EPA promulgated requirements under 40 Code of Federal Regulations Part 60 (40 CFR 60), Subpart Cc - Emission Guidelines and Compliance Times for Municipal Solid Waste (MSW) Landfills. Subpart Cc applies to MSW landfills for which construction, reconstruction or modification was commenced before May 30, 1991.

EPA also promulgated 40 CFR 60, Subpart WWW - Standards of Performance for MSW Landfills. Subpart WWW applies to MSW landfills that commenced construction, reconstruction or modification on or after May 30, 1991. Subpart Cc and WWW requirements are equivalent.

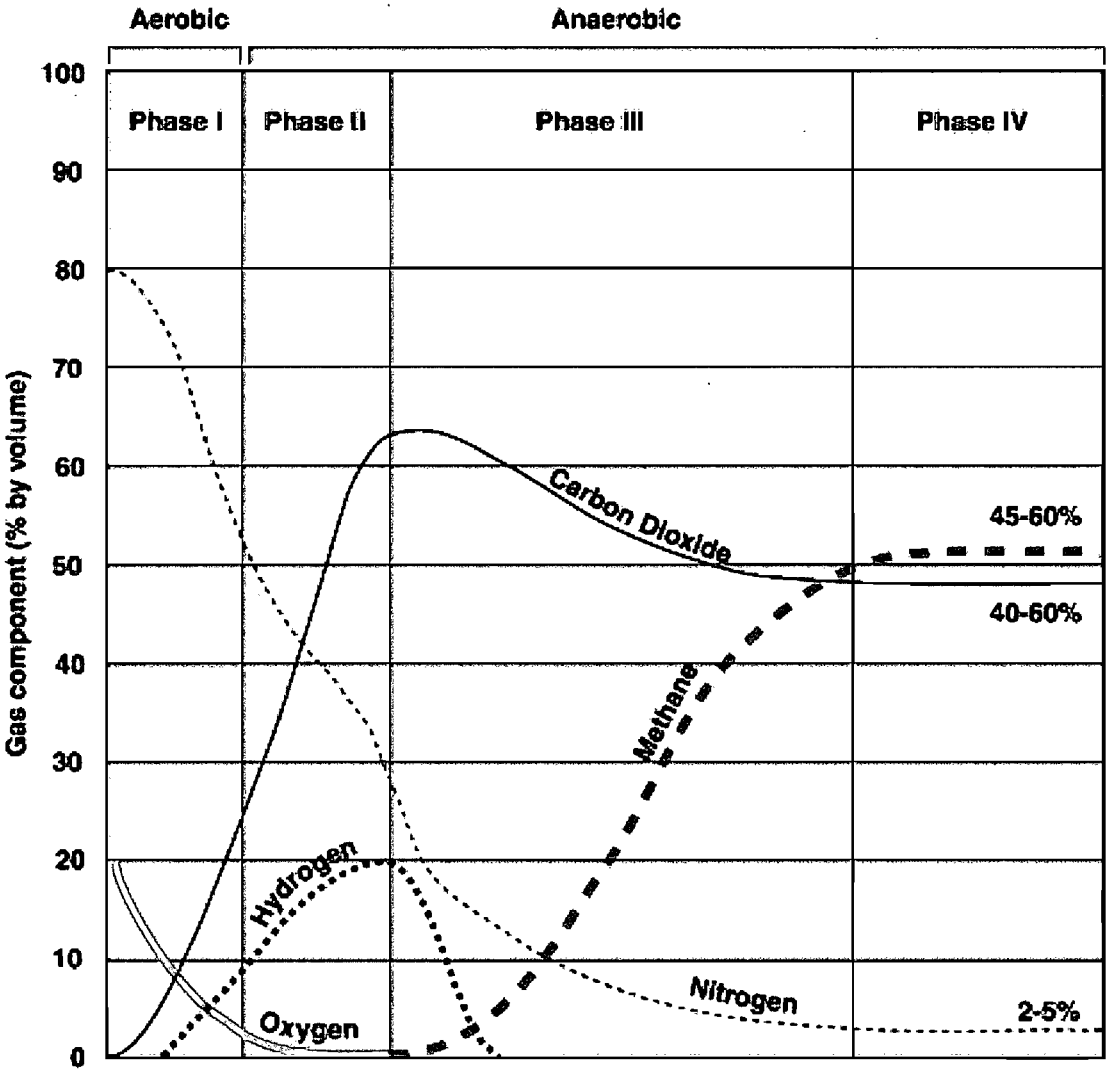


Figure 23 - Production Phases of typical LFG from Waste Landfills (source: EPA 1997)

Subparts Cc and WWW require landfills having a design capacity of 2.5 million megagrams (Mg or metric tons) or more of waste and actually emit 50 metric tons per year (metric TPY) or more of NMOC to operate a LFGCCS in accordance with specific engineering design criteria. Control devices (usually flares or other combustion devices) must reduce the NMOC emissions from the collected landfill gas by 98% or to a concentration of 20 ppmv.

MSW landfills are required to install controls based on their NMOC emission rate and must also monitor surface CH_4 emissions. If CH_4 emissions exceed background levels by more than 500 ppmv between 2 and 4 inches from the ground surface, the LFG collection grid must be adjusted or improved to achieve the 500 ppmv level. The two subparts contain various other testing, monitoring, and reporting requirements that landfills must meet.

3.3 Past and Future Waste Throughput and LFG Generation Estimates

WMI submitted information regarding past waste throughput and LFG generation with the present application. Table 6 is a summary based on past records and future projections made by WMI and its consultants circa 2007. According to the information provided, the OL was clearly capable of holding much more than 2.5 Mg of waste (approximately 2.75 million tons) and actually reached that level by 1998.

Table 6 – Past Annual Waste, LFG Generation and Recovery Estimates and Future Projections

Year	Annual Waste (TPY)	Cumulative Waste (Tons)	LFG Generation Potential (scfm)	Landfill Covered by LFGCCS (%)	LFG Recovered (scfm)
1991	28,637	315,007	194	0	0
1992	42,008	357,015	206	0	0
1993	186,295	543,310	230	0	0
1994	392,671	935,981	388	0	0
1995	452,973	1,388,954	729	0	0
1996	457,020	1,845,974	1,100	0	0
1997	655,581	2,501,555	1,447	70	1,013
1998	701,917	3,203472	1,995	65	1,271
1999	758,554	3,962,026	2,468	60	1,481
2000	954,901	4,916,927	2,994	55	1,647
2001	757,288	5,674,215	3,665	50	1,833
2002	664,891	6,339,106	4,099	50	2,049
2003	693,349	7,032,455	4,411	60	2,647
2004	2,231,950	9,264,405	4,727	70	3,309
2005	2,246,790	11,511,195	6,471	80	4,530
2006	2,007,500	13,518,695	8,095	80	6,476
2007	2,007,500	15,526,195	9,368	80	7,494
2008	2,007,500	17,533,695	10,543	80	8,434
2009	2,007,500	19,541,195	11,628	80	9,302
2018	2,555,500	41,441,195	20,877	90	18,789
2028	2,555,500	66,991,195	26,659	90	23,993
2038	2,555,500	92,541,195	29,257	90	26,332
2048	2,555,500	118,091,195	30,425	90	27,382
2058	1,669,245	142,755,440	30,949	90	27,854
2068	0	142,755,440	14,674	100	14,674

By 2000 the OL added nearly 1 million TPY to its total stored waste each year and soon thereafter held 5 million tons. Waste flow tripled from 2003 to 2004. Flow continued at a rate greater than 2 million TPY thereafter and total waste held reached 10 and 15 million tons in 2005 and 2007 respectively.

The projection submitted with the present application assumed that annual waste flow will continue at the rate of 2.0 to 2.6 million TPY, culminating in total storage of 142.8 million tons in 2058 when the landfill will presumably close. According to the application, average LFG generated will progressively increase from approximately 6,500 scfm (of which of 4,530 scfm was combusted) in 2005 to nearly 31,000 scfm (of which nearly 28,000 scfm will be combusted) in 2058. The peak value for combustion will occur soon thereafter at approximately 32,500 scfm and then decline. The LFG generation and recovery projections are key values in estimating the equipment needs for the present LFGTE project.

3.4 Errors in H_2S Generation and SO_2 Emission Estimates

While Subparts Cc and WWW addressed NMOC and CH_4, no requirements were included to regularly measure, report or control H_2S contained in the LFG or SO_2 generated by combustion of LFG. The applicant did not account for the possibility of significant SO_2 emissions when originally applying for permit 0930104-001-AC (issued 05/13/1997) to flare the LFG. According to the air construction permit application for the first 1,500 scfm enclosed flare, emission estimates were provided to the Department indicating emissions of 13.6 TPY of nitrogen oxides (NO_X), 32.9 TPY of carbon monoxide (CO) and 0.5 TPY of SO_2.

The report submitted in support of the application states:

"The enclosed flare which represents the best available control technology (BACT) has been designed in accordance with the applicable emission limitation requirements of 40 CFR Parts 60 and 61. Engineering drawings prepared by LFG Specialties, Inc. (LFG) of Cleveland, Ohio for the flare station are presented in Appendix A."

In 2003, WMI applied for permit 0930104 (issued 09/29/2003) to replace the 1,500 scfm enclosed flare (EU 001) with a 3,000 scfm enclosed flare (EU 005) and to limit the flow and emissions from the back up open flare (EU 004).

The following table is from a response to the Department's Southeast District's request for additional information (RAI) and was extracted from Attachment I to the revised application included in the response.

Table 7 – Calculated Maximum Potential Emissions (Manufacturer Guarantee)

Sources	LFG Flowrate (scfm)	PM_{10} (TPY)	SO_2 (TPY)	NO_X (TPY)	CO (TPY)	VOC (TPY)	HAP (TPY)	Single HAP (TPY)
002 004 005	6,000 Total	13.56	13.20	88.89	240.01	1.66	7.29	6.37

1. PM_{10} is particulate matter (PM) with a mean particle diameter less than 10 microns.
2. VOC are volatile organic compounds.

The table reflects the present configuration of flares with the exception of the temporary odor control flares (CD-04, 05) and the temporary authorization to continuously use EU 004 to control odor.

Certain anaerobic bacteria are capable of breaking down gypsum ($CaSO_4$) present in certain wastes, including construction and demolition (C&D) debris, and reducing the sulfur contained therein to H_2S. The process is, roughly speaking, the reverse of the oxidation process described in previous sections. Additional moisture and nourishment are provided to these bacteria by rain, conventional MSW and sewage sludge also received by landfills in South Florida. The result is that very significant concentrations of H_2S exist at such operations.

The issue of high H_2S generation had already been identified in the early 1990s at the WMI CDSL in Broward County well before submittal of the above mentioned application for the first flare at the OL. WMI installed a LO-CAT® II plant at the CDSL to remove H_2S prior to combustion in the CTG.

According to the product information, the LO-CAT® II unit commissioned in 1994 at the WMI CDSL has been operating since then and has treated incoming LFG with concentrations estimated as high as 5,000 ppmv to less than 100 ppmv H_2S after treatment. The system was subsequently upgraded and the supplier reported that the unit can "treat gas containing up to 33,350 ppmv H_2S, reducing it to less than 50 ppmv H_2S". The SO_2 emissions from the CTG at the CDSL have been in compliance with permitted SO_2 emission limits. The manufacturer's brochure highlighting its experience at the CDSL and is available at:

www.gtp-merichem.com/downloads/pompano.pdf

The experience at the WMI CDSL in the early 1990s should have provided the operators of the OL and permitting consultants with enough information to consider the likelihood of significant H_2S generation when applying for the air permit in 1997.

3.5 Recent Reporting of SO_2 Emissions

Early each year, WMI is required to submit annual operating reports (AOR) to the Department that include emission estimates of key pollutants from the previous year. Table 8 is a listing of the SO_2 emissions reported by WMI in the AOR submitted to the Department for the period 2005-2008 in TPY. The very low SO_2 emission estimates during 2005-2006 reflect the erroneous assumptions by WMI of low H_2S generation rates within the landfill. The higher estimates (est.) reported in 2007 and 2008 by WMI are more realistic, but the Department does not necessarily concur with the exact values.

Table 8 – Annual SO_2 Emissions from the OL as reported by WMI in TPY (Source: AOR)

EU ID No.	2005	2006	2007	2008
003	4.1 (error)	4.9 (error)	379 (est.)	260 (est.)
004	0.04 (error)	0.4 (error)	23.7 (est.)	1.5 (est.)
005	4.2 (error)	4.9 (error)	386 (est.)	284 (est.)
CD-04	Did not exist	0	604 (est.)	534 (est.)
Total	8.3 (error)	10.2 (error)	1392 (est.)	1080 (est.)

Figure 24 is a projection by WMI submitted in early 2007 of SO_2 emissions from 2005 through 2070 assuming that a LO-CAT® II system is installed by 2010 and based on the LFG flow projections given in Table 6. The values recognize the past reporting errors including 2005 and 2006. WMI (or its consultant) believed that an increase equal to or greater than the "significant emission rate" (SER) for SO_2 (40 TPY) would be achieved in 2007.

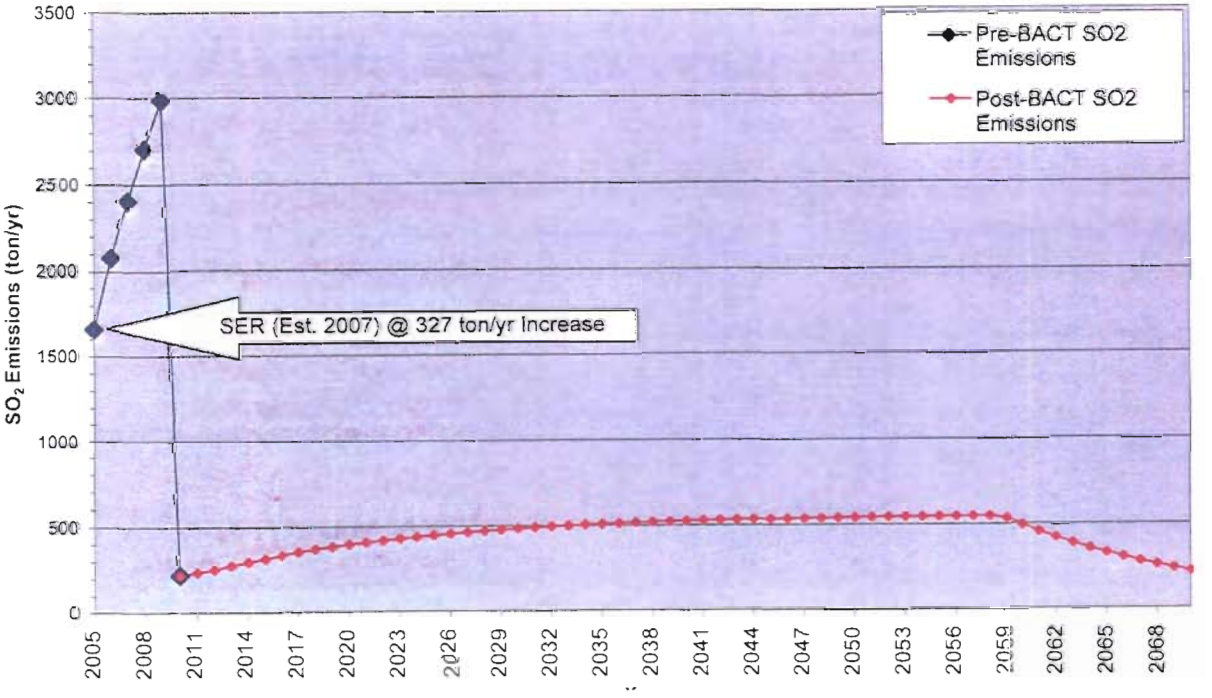


Figure 24 – WMI Estimates of Past and Projections of Future SO_2 Emissions from OL 2005-2070

At the pre-control H_2S concentration (5,800 ppmv) initially assumed by WMI for the LFGTE project, a more accurate estimate of the potential to emit (PTE) SO_2 from the first 1,500 scfm flare is calculated as follows:

[(1,500 f^3/min)x(0.58 f^3 H_2S/100 f^3)x(60 min/hr)x(8,760 hr/yr)x(lb-mol H_2S/379 f^3 H_2S)x (1 lb-mol SO_2/lb-mol H_2S)x(64 lb SO_2/lb-mol SO_2)x(ton SO_2/2000 lb SO_2)] = 386 TPY.

A similar calculation for EU 003, 004 and 005 (with EU 004 used as back up only) would yield a PTE of 1,544 TPY and replace the value of 13.2 TPY given in Table 7. The PTE based on allowing continuous use of EU 004 to assist in odor control and the two temporary odor control flares allowed by the previously discussed consent orders would yield a PTE estimate closer to 3,000 TPY of SO_2. That is the peak value shown in Figure 24 prior to the reductions projected in 2010 due to operation of the GDP within the LFGTE project.

3.6 Emission Projection for Near-Term and Long-Term Projects

Table 8 indicates the applicant's stack emission projections based on the near-term and the long-term project. The reference years of 1996, 1997, 2003 are included to track PTE as new flares were added in the past. The value for 2007 reflects a revised estimate of baseline emissions by WMI since submittal of the LFGTE project application in 2007.

Table 9 – Estimate of Flow Rates, Controls and Future Emissions for Near and Long-Term Projects

Year	Controls	LFG Flow Rate scfm [7]	SO_2 TPY	CO [9] TPY	NO_X TPY	PM/PM_{10} TPY	NMOC TPY	VOC TPY	H_2S TPY
1996 [1]	None	None (fugitive)	0	0	0	0	?	374 [10]	?
1997 [2]	EU 002	1,500 (PTE)	386	32.9	13.6	?	?	?	?
2003 [3]	EU 003, 004, 005	6,000 (PTE)	1,544	240	88.9	13.6	?	1.7	?
2007-08 [4]	EU 003, 004, 005, CD-04	~6,285	1,236	246.4	50.1	14.0	69.9	27.2	?
Near-Term [5]	T-130, 3 C-40, 5 Flares	13,500	239	913	343	40	9.7	3.8	0.1
Long-Term [6]	T-130, 15 C-40, 12 Flares	32,500	578	2,466	766	75	23	9	0.3
SER			40	100	40	25/15	50	40	10
PSD?			yes [8]	yes	yes	yes	No	no	no

1. True baseline year prior to presence of any stack emissions (i.e. flares).
2. Using values estimated by Geosyntec in 1997 application, except for SO_2. SO_2 PTE based on 5,800 ppmv H_2S in LFG.
3. Using values estimated by Shaw in 2003 application, except for SO_2. SO_2 PTE based on 5,800 ppmv H_2S in LFG.
4. Emissions estimates submitted by WMI in AOR. Fugitive emissions from EU 001 included.
5. Near and long-term emission estimates are based on applicant's estimates of BACT requirements excluding fugitive emissions.
6. Long-term projections also include contributions from near-term project.
7. Total flow assuming any CTG are fully utilized and any remaining flow is combusted in flares.
8. Triggered PSD as a major stationary source prior to present project.
9. Assumes CTG will operate between 80 and 100% of full load. Emissions are greater at 50% load. As a conservative estimate, add 500 TPY of CO assuming the T-130 CTG (the largest) always operates at half-load and the rest near full load.
10. VOC (fugitive) emissions per 1997 Title V permit.

Based on the foregoing discussions, the PSD significant major stationary source status based on the PTE SO_2 was achieved when the first flare was permitted in 1997 (if not already achieved by VOC PTE). Several more increases of actual of potential SO_2 increases greater than major stationary source threshold of 250 TPY or the SER of 40 TPY occurred between 1997 and 2007.

4. APPLICABLE REGULATIONS

4.1 State Regulations

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air quality as part of the Florida Administrative Code (F.A.C.).

This project is subject to the applicable rules and regulations defined in the following Chapters of the F.A.C.: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review including PSD Review and BACT); 62-213 (Title V Air Operation Permits for Major Sources of Air Pollution); 62-296 (Emission Limiting Standards); and 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures).

PSD applicability and the preconstruction review requirements of Rule 62-212.400, F.A.C. are discussed in Section 5 of this report. Additional details of the other state regulations are provided in Section 4 of this report.

4.2 Federal Regulations

The U.S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 identifies New Source Performance Standards (NSPS) for a variety of industrial activities. Part 61 specifies National Emissions Standards for Hazardous Air Pollutant (NESHAP) based on specific pollutants. Part 63 specifies NESHAP provisions based on the Maximum Achievable Control Technology (MACT) for given source categories. Federal regulations are adopted in Rule 62-204.800, F.A.C. Additional details of the applicable federal regulations are provided in Section 4 of this report.

5. DEPARTMENT'S PROJECT REVIEW

5.1 Applicable State Regulations

Following are some of the key state regulations that apply to the project:

- Rule 62-212.400 (PSD), F.A.C., which regulates the entire project; and
- Rule 62-296.320, F.A.C. - General Pollutant Emission Limiting Standards.

5.2 NSPS and NESHAP

For this project, the following NSPS (40 CFR 60) or NESHAP (40 CFR 63) provisions are applicable:

- 40 CFR 60, Subpart A – NSPS General Provisions;
- 40 CFR 60.18 - General Control Device and Work Practice Requirements (Flares);
- 40 CFR 60, Subpart KKKK - NSPS for Stationary Combustion Turbines;
- 40 CFR 60, Subpart WWW - NSPS for Municipal Solid Waste Landfills;
- 40 CFR 63, Subpart A – NESHAP General Provisions;
- 40 CFR 63, Subpart AAAA – NESHAP for Municipal Solid Waste Landfills; and
- 40 CFR 63, Subpart YYYY – NESHAP for Stationary Combustion Gas Turbines.

6. PSD APPLICABILITY REVIEW

6.1 General PSD Applicability

The Department regulates major stationary sources in accordance with Florida's PSD program pursuant to Rule 62-212.400, F.A.C. PSD preconstruction review is required in areas that are currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or areas designated as "unclassifiable" for these regulated pollutants. As defined in Rule 62-210.200, F.A.C., a facility is considered a "major stationary source" if it emits or has the potential to emit 5 tons per year of lead, 250 tons per year or more of any PSD pollutant, or 100 tons per year or more of any PSD pollutant and the facility belongs to one of the 28 listed PSD major facility categories.

PSD pollutants include: CO; NO_X; SO_2; PM; PM_{10}; VOC; lead (Pb); Fluorides (F); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans (D/F); municipal waste combustor (MWC) metals measured as PM; MWC acid gases measured as SO_2 and hydrogen chloride (HCl); MSW landfill emissions measured as NMOC; and mercury (Hg).

For major stationary sources, PSD applicability is based on emissions thresholds known as the SER as defined in Rule 62-210.200, F.A.C. Emissions of PSD pollutants from the project exceeding these rates are considered "significant" and BACT must be employed to minimize emissions of each PSD pollutant. Although a facility may be "major" for only one PSD pollutant, a project must include BACT controls for any PSD pollutant that exceeds the corresponding SER. The SER are listed in the following table:

Table 10 - List of SER by PSD-Pollutant

Pollutant	SER (TPY)	Pollutant	SER (TPY)
CO	100	NO_X	40
PM/PM_{10}	25/15	Ozone (VOC) [a]	40
Ozone (NO_X) [a]	40	SAM	7
SO_2	40	F	3
Pb	0.6	TRS	10
H_2S	10	MWC acid gases	40
MSW NMOC	50	MWC organics	3.5×10^{-6}
MWC metals	15	Hg [b]	0.1

a. Ozone is regulated by its precursors: NO_X and VOC.
b. Hg is not a PSD-pollutant but has an SER threshold for BACT.

6.2 PSD Applicability for the Project

The project is located in Okeechobee County, which is in an area that is currently in attainment with the state and federal AAQS or otherwise designated as unclassifiable. The facility:

- Is not one of the 28 listed stationary sources of air pollutants which emits, or has the potential to emit, 100 TPY or more of any PSD pollutant; and
- Is a stationary source which emits, or has the potential to emit, 250 tons per year or more of a PSD pollutant (specifically SO_2).

The project (GDP, CTG and flares):

- Is a physical change that would constitute a major stationary source by itself; and
- Exceeds the respective SER at least for CO, NO_X and PM/PM_{10}.

Previous projects (including the original and subsequent flares and various expansions of the OL):

- Constituted one or more physical changes equal to a major stationary source of at least SO_2 and that now require a PSD review and a BACT determination; and
- Exceeded the SER for at least SO_2 and possibly for CO, NO_X and PM/PM_{10}.

Department Rule 62-212.400(2)(a)2.c., F.A.C. (effective August 15, 1999), exempted a significant net increase undertaken solely as a result of a project undertaken for the purpose of complying with the NMOC reduction requirements of Subpart Cc or WWW from the preconstruction review requirements, provided the owner or operator demonstrates that such increase would not cause or contribute to a violation of any ambient air quality standard, maximum allowable increase, or visibility limitation.

The various flare projects conducted after the given date did not qualify for the exemption because the applicant did not estimate increases of any pollutant equal to or greater than the respective SER. Furthermore, WMI did not include a demonstration that the SO_2 emissions occurring due to the flare projects would not cause or contribute to a violation of any ambient air quality standard, maximum allowable increase or visibility limitation. Finally, the odor control flares were not for the purposes of controlling NMOC per Subparts Cc or WWW, but rather for the purpose of reducing odor (primarily due to H_2S).

The mentioned Florida rule was never approved by EPA as part of Florida's State Implementation Plan (SIP) and was withdrawn by the Department on February 2, 2006 in conjunction with the submittal of Florida's New Source Review Reform SIP Revision No. 2006-01.

With respect to a separate and more generalized EPA rule, the U.S. Court of Appeals, District of Columbia Circuit decision of June 24, 2005 held that "EPA erred in exempting from NSR certain pollution control project exemptions that decrease emissions of some pollutants but cause collateral increases of others. The statute authorizes no such exception." The decision is available at the following link:

www.ll.georgetown.edu/federal/judicial/dc/opinions/02opinions/02-1387a.pdf

7. BEST AVAILABLE CONTROL TECHNOLGY DETERMINATIONS (BACT)

7.1 Definition and Procedures for BACT

As defined in Rule 62-210.200(40), F.A.C., ***Best Available Control Technology (BACT)*** is:

(a) An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant, taking into account:

1. Energy, environmental and economic impacts, and other costs;
2. All scientific, engineering, and technical material and other information available to the Department; and
3. The emission limiting standards or BACT determinations of Florida and any other state.

(b) If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of an emissions unit or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation.

(c) Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.

(d) In no event shall application of BACT technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63.

In addition, applicants must provide an Air Quality Analysis that evaluates the predicted air quality impacts resulting from the project for each PSD pollutant.

7.2 BACT for SO_2 from flares and CTG

Pre-combustion Sulfur Removal

The applicant considered several types of GDP, two of which were previously discuss (LO-CAT® and THIOPAQ®). The applicant submitted the following cost comparison for alternative GDP.

Table 11 - Cost Comparison by WMI of Alternative LFG Desulfurization Processes

Process Control	Efficiency (% Removal)	Capital Investment [1] ($)	Annualized Cost [2] ($)	Cost Effectiveness [3] ($/ton Removed)
LO-CAT®	98%	5,000,000	1,000,000	267
Biopuric	97%	16,600,000	3,984,000	1,064
H_2S Plus	95%	4,170,000	4,587,000	1,151
THIOPAQ®	95%	3,486,000	6,324,600	1,689
Sulfa Bind	< 1-2 ppmv	9,794,000	8,791,360	2,347
Sulfur-Rite ®	< 1 ppmv	332,000	12,483,200	3,333

1. Capital investment is for a plant of sufficient size for the long-term project.
2. Annualized cost is over a period of 10 years.
3. Although the process removes sulfur from LFG, cost-effectiveness is based on SO_2 emission reduction.

Applicant's SO_2 BACT Proposal

To satisfy the SO_2 BACT requirement, WMI proposes to install a LO-CAT® or THIOPAQ® system to achieve 400 ppmv of H_2S in the LFG prior to combustion in the CTG or flares.

Department's SO_2 BACT Evaluation

The Department agrees that SO_2 can be controlled by achievement of a LFG H_2S fuel specification but believes that a lower value than proposed by OL will constitute BACT. The Department notes that all of the technologies reviewed by the applicant are cost-effective. According to the assessment above, LO-CAT® appears to be superior to THIOPAQ® in terms of SO_2 removal and the assessment suggests emissions from the latter will be more than twice the emissions when employing the former. However, the Department reviewed a paper (Cline, et al, 2003) about THIOPAQ®. The paper clarifies that while sulfur recovery (as S) is on the order of 95-98%, the H_2S (and consequently SO_2) reduction is greater than 99% and can achieve H_2S levels to values as least as low as claimed by LO-CAT®.

On the basis of the application, a reduction of 98% (less than claimed to be possible by either supplier) from 5,800 ppmv will result in H_2S concentrations of 116 ppmv. Assuming a very high initial value of 10,000 ppmv, treatment to 98% removal will yield 200 ppmv or less by either process under consideration.

The applicant calculated the cost-effectiveness to reduce SO_2 to 400 ppmv on the basis of more than 7,000 TPY of uncontrolled SO_2. SO_2 control would be cost-effective even at 10 times the reported cost for LO-CAT®. Even if the uncontrolled potential to emit SO_2 were only 1,000 TPY, SO_2 control would still be cost-effective.

An upper bound to the cost-effectiveness would be to assume the same annualized costs given in Table 11 while removing only about 1,000 TPY of the SO_2 emissions reported in 2008. That value would equal 1,000/ton SO_2 removed. A similar calculation based on reduction from any of the uncontrolled emission rates projected in Figure 24 (between 2005 and 2009) would yield much lower costs per ton removed.

The value of 400 ppmv appears arbitrary and does not reflect the level which can be achieved in a cost-effective manner. Rather it is roughly equal to the value of the maximum H_2S consistent with the 40 CFR 60, Subpart KKKK SO_2 emission limit of 0.15 pounds of SO_2 per million (mm) Btu heat input (lb/mmBtu) for CTG fueled by biogas (of which LFG is a subset). Given that the (variable) LFG contains 450 Btu per standard cubic foot (Btu/scf or Btu/f^3), the demonstration is as follows:

[400 f^3 H_2S/mm f^3)x(f^3/450 Btu)x(lb-mol H_2S/379 f^3 H_2S)x
(1 lb-mol SO_2/lb-mol H_2S)x(64 lb SO_2/lb-mol SO_2)] = 0.15 lb SO_2/mmBtu

In other words, LFG containing more than approximately 400 ppmv of H_2S cannot be burned in CTG.

Department's SO_2 BACT Determination

The Department concludes that desulfurization to 200 ppmv H_2S constitutes BACT for SO_2 for the past flare projects and the near-term and long-term projects (including flares and CTG). At such a value the source will emit approximately 120 TPY of SO_2 after implementation of the near-term project and approximately 279 TPY of SO_2 after implementation of the long-term project.

The Department further notes that the LO-CAT® system at the WMI CDSL operates at a landfill with a lower LFG flow and less CTG (only three C-40 CTG) than planned at the OL even for the near-term project.

During the interim period, the applicant expects to continue emitting approximately 1,207 TPY of SO_2 and the PTE remains on the order of 3,000 TPY based on a pre-treatment concentration of 5,800 ppmv of H_2S. The Department finds good cause requiring the permittee to conform to new or additional conditions. Therefore, the permittee is required to install and operate by December 31, 2011 a GDP such that all collected LFG shall be treated to a concentration less than or equal to 200 parts per million by volume of hydrogen sulfide (H_2S) by volume (ppmv) as determined by a H_2S continuous emission monitoring system (CEMS) prior to combustion whether or not the permittee builds a LFGTE plant.

7.3 BACT for NO_X and CO from CTG

Discussion

LFG contains siloxanes, which are a class of compounds composed of units of the form R_2SiO, where R is a hydrogen atom or a hydrocarbon and Si is silicon. Siloxanes are present in certain landfill waste streams such as toiletries, cosmetics, and other personal grooming items. When combusted, such compounds produce silica (SiO_2) the consequences of which are discussed in the air pollution control sections below.

In many of its previous BACT determinations for CTG, the Department has specified wet injection or lean pre-mix combustion (LPMC) technologies also known as dry low NO_X (DLN) when burning natural gas in simple cycle CTG. The Department often requires add-on catalytic control technologies, especially for CTG operating in combined cycle. The technologies include:

- Selective catalytic reduction (SCR) for NO_X control based on NH_3 injection into the combustion gases in the presence of vanadium catalyst; and
- Oxidation catalyst for CO and VOC control.

The applicant and SOLAR contend that the following limitations exist to wet injection, DLN and catalytic technologies:

- Fuels like LFG cannot burn in LPMC modes (or do so with difficulty);
- Wet injection further reduces the heating value of LFG that is already of low heating value; and
- A separate treatment system to remove siloxanes is required to avoid adverse effects of SiO_2 deposits on catalysts or certain CTG equipment.

The low heating value and the limitations on LPMC are represented in Figure 25 that was excerpted from a SOLAR presentation. LFG has a relatively low heating value and is burned in a conventional manner meaning a diffusion flame mode. Therefore the benefits of LPMC are generally not possible to obtain when burning LFG unless it is cleaned to natural gas specifications and upgraded to similar heating value (e.g. by removing the CO_2).

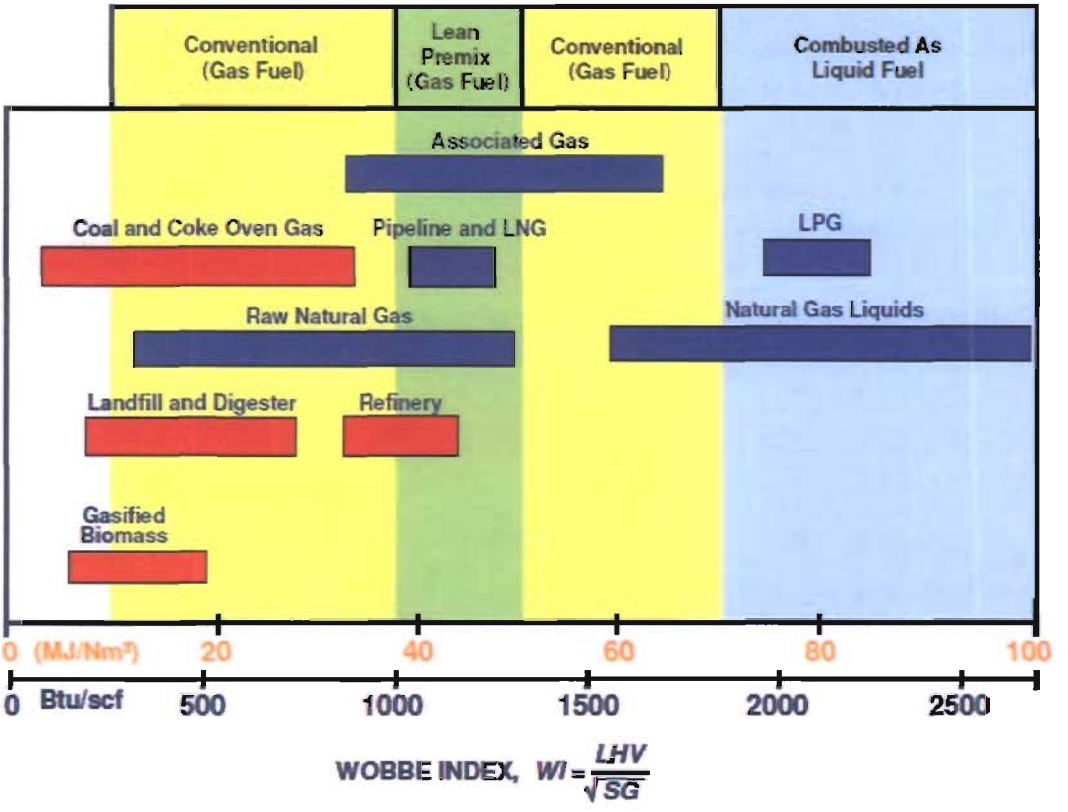


Figure 25 - Typical Fuel Wobbe Index Ranges for Combustion Systems

Interestingly, under diffusion flame combustion, CTG operating on LFG emit relatively low NO_X compared with CTG operating on natural gas. The high level of diluent CO_2 present in the LFG provides a modicum of NO_X control in a manner similar to wet injection.

Applicant's NO_X and CO BACT Proposal

Table 12 is a listing of the product line available from SOLAR; the key supplier of CTG for LFG applications.

Table 12 - Common Emission Values for SOLAR CTG Capable of Burning LFG [1]

Turbine Model	Emissions @ 80-100% load and @15% Oxygen (O_2)				
	NO_X [4] (ppmv)	CO [5] (ppmv)	UHC [2] (ppmv)	VOC [6] (ppmv)	Heat rate [8] (Btu/kWH)
Centaur 40 (3.5 MW)	**42**	**250**	100	~5	12,240
Centaur 50 (4.6 MW)	42	200	100	unknown	11,630
Mercury 50 (4.6MW) [7]	25	130	25	unknown	8,836
Taurus 60 (5.7 MW)	42	150	75	unknown	10,860
Mars 100 (11.3 MW)	60	200	100	unknown	10,520
Titan 130 (15 MW)	**72**	**100**	50	~5	9,695
NSPS Subpart KKKK	74 or 96 [3]	No Standard	No Standard	No Standard	

1. Guarantees are on a case-by-case basis depending on actual LFG characteristics.
2. UHC represents unburned hydrocarbons that equate approximately to NMOC plus methane from CTG.
3. 74 ppmv is applicable to the T-130 CTG and 96 ppmv is applicable to the C-40 CTG.
4. NO_X characteristics are 5 to 38 ppmv based on model when burning natural gas.
5. CO characteristics are 10 to 50 ppmv based on model when burning natural gas.
6. VOC estimates for OL project were submitted by the applicant.
7. Mercury 50 can achieve NO_X of 5 ppmv and CO of 10 ppmv if LFG is cleaned to near-natural gas specification.
8. Information purposes only. Heat rate in Btu input per kilowatt-hour of electricity generated (Btu/kWH).

The CTG and BACT proposals for the OL project are **bolded and underlined**. The actual guarantees for the project are provided in Table 13. The applicant has selected the T-130 and C-40 CTG and not the others shown in the two tables.

Table 13 – OL Project Specific Guarantees for SOLAR Turbines Burning LFG [1]

Turbine Model	Power (MW)	Gas Flow (lb/min)	Gas Temp. (°F)	NO_X			CO		
				(ppmv)	(lb/hr)	(g/bhp-hr)	(ppmv)	(lb/hr)	(g/bhp-hr)
Titan 130-20501	15.19	6,665	935	**72**	46.4	0.987	**100**	78.4	1.67
Centaur 50-6200	4.56	2,523	956	42	9.8	0.696	200	35.5	2.52
Centaur 40-4700	3.34	2,506	837	**42**	7.9	0.746	**250**	28.6	2.70

1. g/bhp-hr = grams per brake horsepower-hour; lb/hr = pounds per hour; lb/min = pounds per minute.

Table 14 is a summary of the cost-effectiveness calculated by WMI for 90% CO and NO_X reduction based on siloxanes removal coupled with SCR and oxidation catalyst. The costs were provided by WMI, but were adjusted to reflect three C-40 CTG for the near-term project rather than four C-40 CTG.

Table 14 – WMI Estimates of Annual Costs for Siloxanes and Catalytic Control Strategy

Cost Item	Annualized Costs for NO_X + CO Control Scenario			
	One T-130	One C-40	One T-130 + 3 C-40	One T-130+ 15 C-40
Siloxanes for T-130	$322,646		$322,646	$322,646
Siloxanes for C-40		$139,200	$417,600	$2,088,005
SCR for T-130	$1,165,516		$1,165,516	$1,165,516
SCR for C-40		$777,761	$2,333,283	$11,666,415
CO Catalyst for T-130	$402,702		$402,702	$402,702
CO Catalyst for C-40		$370,375	$1,111,125	$5,555,625
Total Annualized Costs	$1,890,864	$1,287,336	$5,752,872	$21,200,909
NO_X Reduction	183 TPY	31.5 TPY	278 TPY	655 TPY
CO Reduction	772 TPY	236.7 TPY	1,482 TPY	4,323 TPY
Total NO_X + CO Reduction	955 TPY	268 TPY	1,760 TPY	4,978 TPY
Cost Effectiveness	**$1,980/ton**	**$4,800/ton**	**$3,269/ton**	**$4,259/ton**

Department's NO_X and CO BACT Evaluation

The top control for NO_X and CO is actually part of an overall control strategy that also accomplishes SO_2 and PM/PM_{10} control. Two key projects have been recently permitted in non-attainment areas that serve as examples for the top control which is known as the lowest achievable emission rate (LAER). One project is located at the University of New Hampshire (UNH) and is being conducted in partnership with WMI. The second project is in Rhode Island.

The controls required to achieve LAER are summarized as follows:

- Desulfurization of the LFG to minimize SO_2 emissions from the CTG;
- Siloxanes removal to avoid silicon deposits on CTG equipment and to avoid interference with the operation of pollution control equipment;
- Selective catalytic reduction (SCR) or removal of CO_2 coupled with operation in LPMC mode.

Unlike BACT, cost is not a consideration when LAER is required.

The UNH project incorporates complete gas cleanup including removal of CO_2 to produce LFG with a specification nearly equal to that of natural gas. This allows use of the highly efficient SOLAR Mercury 50 (M-50) for LPMC which achieves less than 5 ppmvd of NO_X and less than 10 ppmvd of CO when fired with natural gas. By combusting LFG cleaned up to natural gas quality, the CTG can be fired in LPMC mode in accordance with the Wobbe Index chart above. The project recently started up and has reportedly achieved less than 4 ppmv of NO_X (without SCR) and less than 3 ppmv of CO when burning LFG cleaned to near natural gas specifications.

The Rhode Island project is based on the installation of five nominal 5.7 MW CTG operated in combined cycle. The CTG model is a SOLAR Taurus 60 (T-60). The project includes an SCR system that will be located within the heat recovery steam generator (HRSG). The NO_X limit is 25 ppmv of NO_X. The project incorporates LFG siloxanes removal and a sulfur specification of 100 ppmv H_2S. For reference, the project will handle nearly the same amount of LFG as the OL near-term project.

At first glance the values provided in Table 14 by WMI for LAER-type strategies appears reasonable ($2,000 to $5,000/ton pollutant removed) using the typical yardsticks of cost-effectiveness for pollutant reduction. However, if the costs are expressed in terms of the tipping fee per ton of MSW received, the impacts may be seen in a different light. At a process rate of 2,000,000 TPY, the long term costs of control (beyond the costs of combusting LFG) will be roughly $10/ton of MSW. According to one industry website, recent quotation for the MSW tipping fee at the OL is $27.79/ton. The details are available at:

www.wastemap.org/facility-profile.cfm?idsfacility=68

While tipping fees vary based on economic activity, competition, waste type, natural events, etc., the value given is fairly typical for that landfill. The long term annualized cost of the additional equipment to achieve LAER controls could equal one-third of the tipping fee if the OL calculations are correct.

The Department does not necessarily agree with the calculations submitted by OL. However, the Department concludes that at this time further cleanup (beyond desulfurization) and add-on controls is not yet cost-effective for CO and NO_X for the near-term project. The Department will re-evaluate this decision from time-to-time as the economics and requirements for renewable energy and CO_2 control become clearer for LFGTE projects.

The Department requested that OL consider the highly efficient M-50 CTG burning desulfurized LFG, without siloxanes or CO_2 removal because this model can achieve 25 ppmv of NO_X under diffusion flame mode. The M-50 delivers almost 40% more power than the C-40 from a given amount of fuel. Because of the improved efficiency and the lower NO_X concentrations for the M-50 than the C-40, the annual emissions for an M-50 scenario would be less than half of the emissions for the C-40 scenario even without SCR or LPMC.

The M-50 CTG incorporates a "recuperator" to achieve the excellent (i.e. low) heat rate indicated in Table 12. According to SOLAR there is potential for silicone deposits on the recuperator and a treatment system for siloxanes would be necessary. According to SOLAR, the firing temperature is different between the M-50 and the other available models and is more susceptible to silicone fouling because of the different firing temperature.

At this time, the Department accepts the present arguments of SOLAR and WMI regarding the siloxanes cleanup requirements to use the more efficient engines.

For the future, it should be noted that the cost to remove siloxanes from the LFG prior to use in the 15 C-40 CTG was estimated by WMI at $2,000,000 per year. With siloxanes removal, it would be possible to produce another 20 MW from about the same amount of LFG (and fewer CTG) if the 15 C-40 CTG are replaced by a corresponding number of M-50 CTG. Assuming an 80% capacity factor, and only $0.05/kWH, the additional revenues in the long run would equate to:

(20 MW)x(1,000 kW/MW)x(8,760 hr/yr)x($0.05/kW-hr)x(0.8) = $8,760,000/yr.

The further (unknown) costs of CO_2 removal would also make it possible to achieve very low NO_X and CO values by allowing M-50 CTG to operate in LPMC mode. Assuming that CO_2 removal costs about the same as siloxanes removal, there would still be a positive cash flow by adopting the M-50 CTG strategy even after paying the added cost of the more expensive CTG model.

For reference, a project was recently implemented in Georgia whereby the Municipal Gas Authority of Georgia will receive LFG treated to near pipeline quality specification. The details are available at the following two links:

http://seesorg.org/Devid_Wentworth_9-21-09.pdf

www.biomassmagazine.com/article.jsp?article_id=2424

The design includes desulfurization and CO_2 removal, but does not appear to include siloxanes removal.

For reference, WMI evaluated the possibility of conveying the untreated LFG approximately 25 miles to a coal-fueled power plant operated by Cogentrix in Martin County. The Cogentrix facility is equipped with exhaust gas cleanup equipment including scrubbers, an SCR system and a baghouse. The applicant determined that this alternative is not feasible for the OL due to the cost to design, permit and construction the pipeline.

Department's NO_X and CO BACT Determination

The Department has determined that BACT for NO_X and CO are:

- 72 and 100 ppmv @ 15% O_2 for NO_X and CO respectively from the T-130 CTG; and
- 42 and 250 ppmv @ 15% O_2 for NO_X and CO respectively from the C-40 CTG

This determination applies for all CTG for the near-term project for which construction is commenced by December 31, 2013. A separate application including an updated BACT proposal will be required for: any of the CTG authorized for the near-term project for which construction commences after 2013; and for additional CTG associated the long-term project (beyond those authorized for the near-term project). The future BACT proposals shall include a reassessment of the development and cost of LFG cleanup technologies, further advances in CTG LPMC technology, and catalyst for NO_X and CO control.

7.4 BACT for PM/PM_{10} from CTG

Clean fuel is necessary to avoid damaging turbine blades and other components already exposed to very high temperatures and pressures. The particulate concentration of LFG is relatively low. Some is removed by the LFG conditioning equipment prior to compression and delivery to the CTG.

Siloxanes and sulfur compounds such as H_2S provide the opportunity for fine PM ($PM_{2.5}$) formation. Desulfurization of the LFG will reduce the possibility of $PM_{2.5}$ formation in the environment. Siloxanes not only contribute to $PM/PM_{10}/PM_{2.5}$, they also limit the ability to use catalyst for NO_X and CO and to use the more efficient recuperative CTG.

Efficient combustion will minimize PM/PM_{10} emissions, while SO_2 and NO_X control will minimize $PM_{2.5}$ emissions.

7.5 BACT ANALYSIS FOR THE LANDFILL (EU 001)

As previously discussed, 40 CFR 60, Subpart WWW is the key standard applicable to landfills. The main requirements for an active landfill are as follows:

- Install and operate a LFGCC system;
- Design the active LFGCC system 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;
- Collect gas at a sufficient extraction rate, while minimizing off-site migration of subsurface 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 5 years or more;
- Route all the collected gas to a processing system for subsequent sale or to an open flare or enclosed combustion device (such as boiler, process heater, combustion turbine or enclosed flare) to reduce NMOC by 98% by weight.

The applicable NESHAP is 40 CFR 63, Subpart AAAA. Simply stated, the only meaningful requirement is that MSW landfills shall meet the requirements of 40 CFR part 60, Subpart Cc or WWW.

Referring back to Table 6, it is noted that the LFGCCS at the OL covered only 50 to 80% of the LFG generation between 1997 and 2005 (possibly the last year for which the values in the table are based on experience). The temporary odor control flares CD-004 and CD-005 (neither actually a permanent part of the LFGCCS) were necessary due to the insufficient capability of the installed LFGCCS to collect and flare malodorous LFG.

It is possible that the applicant complied with the exact requirements of Subpart WWW described above. However, the landfill (EU 001) is at the very least a fugitive source of PSD-pollutants and can be regulated by requiring BACT in addition to the minimum NSPS requirements.

The past history suggests that it would be more appropriate for large landfills in warm and rainy environments and employing techniques such as those at OL (comingling MSW, C&D/hurricane debris and sewage sludge) to require collection of gases earlier than required by Subpart WWW or to specify a minimum coverage.

The Department under the authority of BACT to reduce fugitive emissions and also for the purposes of odor control will require that gas extraction be practiced at cells in which the initial solid waste has been placed for a period of 3 years (rather than 5 years) or more.

The described practice represents a reasonable precaution to minimize fugitive (non-stack) emissions of PSD-pollutants such as H_2S, NMOC and VOC.

7.6 BACT ANALYSIS FOR THE LFG FLARES

As 40 CFR 60, Subpart A (Section 60.18) is the key standard applicable to open flares. The main requirements for flares are as follows:

- Install and operate a LFGCC system;
- Flares shall be designed for and operated with no visible emissions as determined by the EPA Method 22, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours; and
- Flares shall be operated with a flame present at all times.

Most permitting jurisdictions require installation of enclosed combustion devices to comply with Subparts Cc and WWW because emissions are easier to measure and the flames are not visible. Typically such jurisdictions specify enclosed flares as BACT for non-LFGTE projects when the choice is between open and enclosed flares.

For reference, the emissions of SO_2 will be the same when using the backup open flares as when using enclosed combustion devices such as CTG or enclosed flares. According to the application, the proposed SO_2 limit from the flares is 0.149 lb/mmBtu at 400 ppmv of H_2S. Proposed limits for CO and NO_X are 0.37 and 0.068 lb/mmBtu, respectively.

Emissions CO and NO_X will be much less from the open flares than from the CTG. For example, a single continuously operating 1,500 scfm flare of the design proposed by WMI will emit 13.6 TPY of NO_X and 73.1 TPY of CO. A single 1,500 scfm C-40 CTG will emit 34.6 TPY of NO_X and 125 TPY of CO (as much as 263 TPY of CO if operated at low load).

For the present project, open flares compliant with 40 CFR 60.18 rather than enclosed flares are proposed by the applicant to back up the enclosed combustion devices (i.e. CTG). According to the applicant, open flares respond promptly to surges of LFG such as occur if CTG are suddenly shut down for one reason or another. In contrast to enclosed flares, the open flares do not require time to heat refractory and exhibit greater turndown capability.

Table 15 - NO_X and CO Emission Limits for Recently Permitted Landfill Gas Flares

Facility [1]	Total Capacity (scfm)	Number Type	Permit Date	NO_X (lb/mmBtu)	CO (lb/mmBtu)
MCUA LFG Utilization Project, NJ	~3,333 [2]	Open	3/9/99	0.06	0.18
Minnesota Methane Tajiguas, CA	~2,370 [2]	Enclosed	9/8/04	0.048	0.232
WMI Northwest Regional Landfill, AZ	~1,480 [2]	Enclosed	10/27/03	0.041	0.13
WMI Atlantic Waste Disposal, VA	15,500	Five (5) Enclosed	2/5/03	0.051	0.017
Los Angeles Bureau of Sanitation, CA	8,750	Seven (7) Enclosed	3/29/01	0.06	0.01
RI Resource Recovery Corporation, RI	6,000	Enclosed	7/1/2003	0.025	0.06
WMI Turnkey Landfill, NH	3,500	Enclosed	6/15/02	0.025	0.06
WMI UNH, NH	~8,890 [2]	Two (2) Open	7/25/07 11/7/08	0.068	0.37
Proposed WMI LFGTE Project, FL	32,500	Twelve (12) Open	2010	0.068	0.37

1. It has not been verified that the all projects were actually built.
2. Values derived from mmBtu heat input rates assuming 450 Btu/f^3. Values will be lower if CO_2 removal is practiced.

The proposed CO and NO_X limits for the backup flares from the project are equal to those for the WMI UNH project where the flares also serve as back up control devices. The values were considered LAER for NO_X and BACT for CO. Because of the difficulty in measuring emissions (except for H_2S as surrogate for SO_2), a work practice standard as provided by 40 CFR 60.18 is appropriate for these back up open flares in conjunction with a design standard equal to the proposed BACT limits.

BACT for the backup open flares is:

- 0.068 lb CO/mmBtu and 0.37 lb NO_X/mmBtu achieved by design to those specification and operation in accordance with 40 CFR 60.18.
- 0.075 lb SO_2/mmBtu on a 30-day basis with compliance demonstrated by achieving 200 ppmv of H_2S measured with a H_2S CEMS.
- 0.016 lb PM_{10}/mmBtu achieved by design to that specification, limiting the LFG H_2S concentration to 200 ppmv and compliance with the 40 CFR 60.18 that states that "there shall be no visible emissions (as measured by EPA Method 22) allowed from the flare, except for periods not to exceed a total of 5 minutes in any consecutive hours".

8. AIR QUALITY ANALYSIS

8.1 Introduction

This project includes an ambient air quality analysis since the facility is subject to PSD for emissions of PM/PM_{10}, CO, SO_2 and NO_X. SO_2, PM_{10} and NO_X are criteria pollutants and have national and state ambient air quality standards (AAQS), PSD increments, significant impact levels and de minimis monitoring levels defined for them. CO is a criteria pollutant and has only AAQS, significant impact levels and de minimis monitoring levels defined for it. NO_X is an ozone precursor and any net increase of 100 TPY of pollutant requires an ambient air impact analysis including the gathering of preconstruction ambient air quality data.

8.2 Major Stationary Sources in near Okeechobee Landfill

There are few large emission sources in Okeechobee County. The following tables are lists of the largest stationary sources, by pollutant, in counties adjacent to Lake Okeechobee including Okeechobee County. The future emissions from the proposed LFGTE project are also shown.

Table 15 - Largest Sources of NO_X (2008) in Counties Adjacent to Lake Okeechobee

Owner	Site Name	TPY
Florida Power and Light (FPL)	FPL Martin Plant, Martin County	4,688
FPL	FPL Riviera Plant, Palm Beach County (PBC)	2,245
Indiantown Cogeneration	Indiantown Power Plant, Martin County	2,095
Solid Waste Authority of PBC	North Resource Recovery Facility, PBC	1,401
US Sugar Corporation	Clewiston Mill, Hendry County	886
New Hope Power Company	Okeelanta Cogeneration Plant, PCB	826
WMI/OLI	**OL – long term**	**766**
Sugar Cane Growers Coop	Sugar Cane Growers Coop, PBC	514
Osceola Farms	Osceola Farms, PBC	392
Tampa Electric Company (TECO)	TECO Phillips Station, Highlands County	353
WMI/OLI	**OL – near term**	**343**
Florida Gas Transmission (FGT)	FGT Station 20 St. Lucie	308
Florida Municipal Power Agency	Treasure Coast Energy Center, St. Lucie County	104
WMI/OLI	**OL – as reported in 2008 AOR**	**51**

Table 16 - Largest Sources of SO_2 (2008) in Counties Adjacent to Lake Okeechobee

Owner	Site Name	TPY
FPL	FPL Martin Plant, Martin County	7,734
FPL	FPL Riviera Plant, PBC	2,643
Indiantown Cogeneration	Indiantown Power Plant, Martin County	2,018
WMI/OLI	**OL – as reported in 2008 AOR**	**1,080**
WMI/OLI	**OL – long term @ 400 ppmv H_2S, 13,500 scfm**	**578**
Sugar Cane Growers Coop	Sugar Cane Growers Coop, PBC	426
New Hope Power Company	Okeelanta Cogeneration Plant, PBC	250
SWA of PBC	North Co. Resource Recovery Facility, PBC	248
TECO	TECO Phillips Station, Highlands County	245
WMI/OLI	**OL - near term @ 400 ppmv H_2S, 32,500 scfm**	**239**
U.S. Sugar Corporation	Clewiston Mill, Hendry County	151
PBC Water Utilities	PBC Water Utilities	72

Table 17 - Largest Sources of PM/PM_{10} (2008) in Counties Adjacent to Lake Okeechobee

Owner	Site Name	TPY
FPL	FPL Martin Plant, Martin County	844
Osceola Farms	Osceola Farms, PBC	333
US Sugar Corporation	Clewiston Mill, Hendry County	323
Sugar Cane Growers Coop	Sugar Cane Growers Coop, PBC	257
FPL	FPL Riviera Plant, PBC	173
New Hope Power Company	Okeelanta Cogeneration Plant, PBC	124
Solid Waste Authority PBC	North CO. Resource Recovery Facility, PBC	102
WMI/OLI	**OL – long term**	**75**
WMI/OLI	**OL – near term**	**40**
Okeelanta Corporation	Okeelanta Sugar Refinery, PBC	21
WMI/OLI	**OL – as reported in 2008 AOR**	**14**
TECO	TECO Phillips Station, Highlands County	10

Table 18 - Largest Sources of CO (2008) in Counties Adjacent to Lake Okeechobee

Owner	Site Name	TPY
U.S. Sugar Corporation	Clewiston Mill, Hendry County	11,774
Osceola Farms	Osceola Farms, PBC	11,456
Sugar Cane Growers Coop	Sugar Cane Growers Coop, PBC	10,655
WMI/OLI	**OL – long term (all but one CTG at full load)**	**2,466**
New Hope Power Company	Okeelanta Cogeneration Plant, PBC	2,254
FPL	Martin Plant, Martin County	1,451
WMI/OLI	**OL – long term (all but one CTG at full load)**	**913**
SWA of PBC	North Co. Resource Recovery Facility, PBC	772
Southern Gardens Citrus	Southern Gardens Clewiston, Hendry County	622
FPL	Riviera Plant, PBC	443
Louis Dreyfus Citrus	Indiantown Plant, Martin County	370
WMI/OLI	**OL – as reported in 2008 AOR**	**250**
Indiantown Cogeneration	Indiantown Power Plant, Martin County	158

8.3 Air Quality and Monitoring in the Okeechobee Landfill Region

State agencies operate monitors at seven sites measuring NO_X, SO_2, ozone, PM_{10}, or $PM_{2.5}$ (also called PM_{fine}) in the counties surrounding Lake Okeechobee. The sites are shown in Figure 26. The OL LFGTE project will be located in East Okeechobee County, adjacent to St. Lucie County. There are PM_{10} and $PM_{2.5}$ monitors in nearby rural Belle Glade, which is the center of the sugar industry. There are ozone and $PM_{2.5}$ monitors in the rural to urban transition area in Royal Palm Beach. The rest are along the east coast in the communities of Riviera Beach, Delray Beach and West Palm Beach (WPB Lantana).

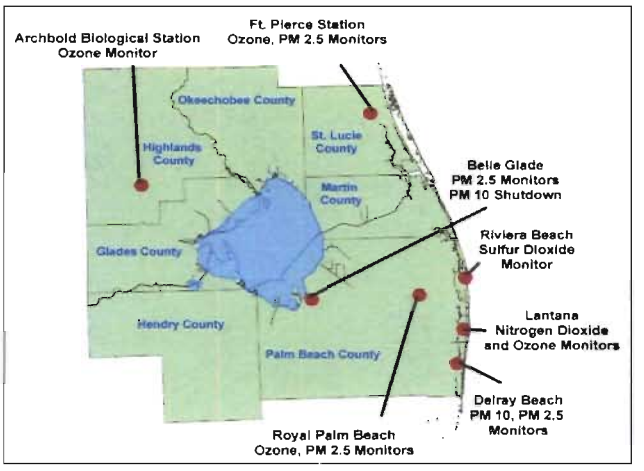


Figure 26 - Air Monitoring Network

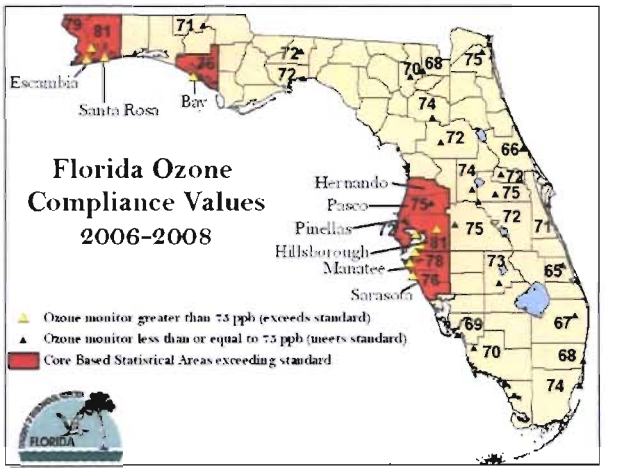


Figure 27 – Ozone Compliance Values

Measured ambient air quality information is summarized in the following table.

Table 19 - Ambient Air Quality Measurements Nearest to the Project Site (2008)

Pollutant	Location	Averaging Period	Ambient Concentration				
			High	2nd High	Mean	Standard	Units [a]
PM_{10}	Belle Glade	24-hour	79	49		150 [b]	$\mu g/m^3$
		Annual			19	50 [c]	$\mu g/m^3$
$PM_{2.5}$	Ft. Pierce	24-hour	32	30		35 [d]	$\mu g/m^3$
		Annual			9	15 [e]	$\mu g/m^3$
SO_2	Riviera Beach	3-hour	4	4		500 [f]	ppb
		24-hour	4	4		100 [f]	ppb
		Annual			2	20 [c]	ppb
NO_2	WPB Lantana	Annual			8	53 [c]	ppb
CO	WPB (shutdown)	1-hour	2	2		35 [f]	ppm
		8-hour	1	1		9 [f]	ppm
Ozone	Ft. Pierce	8-hour	69	67		75 [g]	ppb
		8-hour	2006-08 3-yr. avg.		65	75 [g]	ppb

a. Units are in: micrograms per cubic meter ($\mu g/m^3$); parts per billion (ppb); or parts per million (ppm).
b. Not to be exceeded on more than an average of one day per year over a three-year period.
c. Arithmetic mean.
d. Three year average of the 98th percentile of 24-hour concentrations.
e. Three year average of the weighted annual mean.
f. Not to be exceeded more than once per year.
g. Three year average (avg.) of the 4th highest daily maximum.

On March 27, 2008 the U.S. Environmental Protection Agency (EPA) published a final rule reducing the 8-hour ozone AAQS from 85 to 75 ppb. The average of the annual fourth highest measurements over the period 2006-2008 is the value that is compared to the ozone AAQS for determining whether an area is in attainment. For the Fort Pierce monitor (the nearest to the OL), the value was 65 ppb.

On January 10, 2010 EPA proposed to strengthen the 8-hour ozone standard, to a level within the range of 60-70 ppb and a final standard is expected to be issued by August 31, 2010. Based on the map in Figure 27, the ozone monitor at Ft. Pierce was in attainment with the limit of 75 ppb. Preliminary data for the period 2007-2009 indicates that the 3-year average of the 4th highest ozone value is 63 ppb, suggesting that the ozone monitor nearest the OL will be in attainment with all but the most stringent of the limits under consideration by EPA.

The highest measured values of all pollutants are all less than the respective National Ambient Air Quality Standards (NAAQS). Based on local emission trends, it is not likely that ground-level concentrations will approach the NAAQS levels, at least at the monitoring locations. One exception is ozone because it is formed from precursors that are clearly available (NO_X and VOC) from local industrial and transportation emissions. The tendency to form ozone is accentuated by hot ambient temperature, solar insolation, high pressure, and relatively low wind speed.

8.4 Air Quality Impact Analysis

The applicant's PM_{10}, CO, NO_2, and SO_2 air quality impact analyses for this project was done for four operating scenarios. These four scenarios include the previously described interim scenario and three future operating scenarios.

Table 20 – Future Operating Scenarios Evaluated in Modeling Analysis

Scenario	Enclosed Flares	Open Flares	Titan Turbines	Centaur Turbines	Total scfm
Interim	2	1			5,700
2		2	1	15	32,400
2A		11			32,400
B		12			32,400

Significant Impact Analysis

Significant Impact Levels (SIL) are defined for PM_{10}, CO, NO_2 and SO_2. A significant impact analysis is performed on each of these pollutants to determine if a project will cause an increase in ground level concentration greater than the SIL for each pollutant.

In order to conduct a significant impact analysis, the applicant uses the proposed project's emissions at worst load conditions as inputs to the models. The models used in this analysis and any required subsequent modeling analyses are described below. The highest predicted short-term concentrations and highest predicted annual averages predicted by this modeling are compared to the appropriate SIL for the PSD Class I Everglades National Park (ENP) and the PSD Class II Area (everywhere except the ENP).

For the Class II analysis, a combination of fence line, near-field and far-field receptors were chosen for predicting maximum concentrations in the vicinity of the project. The receptor grid consisted of discrete Cartesian receptors spaced at 100-meter intervals around the facility fence line out to 0.5 kilometers. The remaining receptor grid consisted of Cartesian receptors at 250 meters apart starting from .5 kilometers and extending to 1 kilometer. Beyond 1 kilometer, Cartesian receptors with a spacing of 500 meters were used out to 5 kilometers from the facility. From 5 to 10 kilometers, Cartesian receptors with a spacing of 1000 meters were used.

In some cases, the Department added receptors to ensure the accuracy of the SIL modeled results. For example, 50 meter receptor spacing was added along the property or fence-line for the PM_{10} SIL modeling where the greatest impacts were initially modeled by the applicant.

For the Class I analysis, receptors provided by the National Park Service (NPS) were used.

If this modeling, at worst-load conditions shows ground-level increases less than the SIL, the applicant is exempted from conducting any further modeling. If the modeled concentrations from the project exceed the SIL, then additional modeling including emissions from all major facilities or projects in the region (multi-source modeling) is required to determine the proposed project's impacts compared to the AAQS and PSD increments.

The results shown below are the highest impacts from all four operation scenarios combined. One of the scenarios, the "interim" is temporary and leads to the highest impacts for SO_2, therefore once the GDP is constructed, the impacts shown here for SO_2 will be lower.

Except for CO, maximum predicted impacts from all pollutants are greater than the applicable SIL for the Class II area. Therefore, further full impact modeling is required for these pollutants. The maximum predicted values are also compared with existing ambient air quality measurements from the local ambient monitoring network.

Table 21 - Maximum Predicted Air Quality Impacts from the Okeechobee Landfill Expansion (all 4 scenarios) for Comparison to the PSD Class II SIL

Pollutant	Averaging Time	Max Predicted Impact ($\mu g/m^3$)	Significant Impact Level ($\mu g/m^3$)	2008 Baseline Concentrations ($\mu g/m^3$)	AAQS ($\mu g/m^3$)	Significant Impact?
SO_2	Annual	8	1	~5	60	YES
	24-Hour	54	5	~10	260	YES
	3-Hour	82	25	~10	1300	YES
PM_{10}	Annual	1	1	~19	50	YES
	24-Hour	7	5	~79	150	YES
CO	8-Hour	173	500	~1150	10,000	NO
	1-Hour	1450	2000	~2300	40,000	NO
NO_2	Annual	8	1	~15	100	YES

The nearest PSD Class I area is the Everglades National Park (ENP) located about 169 km to the south of the project site, at its closest point. Maximum predicted air quality impacts from the proposed project are summarized in Table 22. The results of the initial PM_{10}, NO_2 and SO_2 air quality impact analyses for this project indicated that maximum predicted impacts from these pollutants are less than the applicable SIL for the Class I area. Therefore, no further detailed modeling efforts are required for these pollutants in the Class I area.

Preconstruction Ambient Monitoring Requirements

A preconstruction monitoring analysis is done for those pollutants with listed de minimis impact levels. These are levels, which, if exceeded, would require pre-construction ambient monitoring. For this analysis, as was done for the significant impact analysis, the applicant used the proposed project's emissions at worst load conditions as inputs to the models. As shown in Table 23, the maximum predicted impacts for all pollutants with listed de minimis impact levels were less than these levels except for SO_2 on a 24-hour basis. Therefore, no pre-construction monitoring is required for those pollutants except for SO_2 on a 24-hour basis.

Table 22 - Maximum Predicted Air Quality Impacts from the Okeechobee Landfill Expansion (all 4 scenarios) for Comparison to the PSD Class I SIL at ENP

Pollutant	Averaging Time	Max. Predicted Impact at Class I Area ($\mu g/m^3$)	Class I Significant Impact Level ($\mu g/m^3$)	Significant Impact?
PM_{10}	Annual	0.0004	0.2	NO
	24-hour	0.01	0.3	NO
NO_2	Annual	0.002	0.1	NO
SO_2	Annual	0.002	0.1	NO
	24-hour	0.1	0.2	NO
	3-hour	0.2	1	NO

Table 23 - Maximum Air Quality Impacts for Comparison to the De Minimis Ambient Impact Levels

Pollutant	Averaging Time	Max Predicted Impact ($\mu g/m^3$)	De Minimis Level ($\mu g/m^3$)	Baseline Concentrations ($\mu g/m^3$)	Impact Greater Than De Minimis?
PM_{10}	24-hour	7	10	~79	NO
NO_2	Annual	8	14	~15	NO
SO_2	24-hour	54	13	~10	YES
CO	8-hour	173	575	~1150	NO

There are no ambient standards or *de minimus* air quality levels associated with VOC, which is a precursor for the pollutant ozone. The impacts of VOC emissions on ozone levels are not usually seen locally, but contribute to regional formation of ozone. Projects with VOC and NO_X emissions greater than 100 tons per year are required to perform an ambient impact analysis for ozone including the gathering of preconstruction ambient air quality data. The Okeechobee Landfill expansion is not PSD for VOC. The applicant estimated annual potential NO_X emissions from the project to be 766 tons per year. Therefore, preconstruction monitoring for ozone is required.

Based on the preceding discussions, the only additional detailed air quality analyses required by the PSD regulations for this project are the following:

- A multi-source AAQS and PSD increment analysis for PM_{10}, SO_2 and NO_2 in the Class II area;
- A Preconstruction Monitoring analysis for SO_2 and ozone;
- An analysis of impacts on soils, vegetation, visibility, and of growth-related air quality modeling impacts.

Models and Meteorological Data Used in the Foregoing Air Quality Analysis

PSD Class II Area: The AERMOD modeling system was used to evaluate the pollutant emissions from the proposed project in the surrounding Class II Area. AERMOD was approved by the EPA in November 2005. The AERMOD modeling system incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including the treatment of both surface and elevated sources, and both simple and complex terrain. AERMOD contains two input data processors, AERMET and AERMAP. AERMAP is the terrain processor and AERMET is the meteorological data processor.

A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfied the good engineering practice (GEP) stack height criteria.

The AERMET meteorological data used for this analysis consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service at Palm Beach International (PBI) Airport and Florida International University in Miami respectively. The 5-year period of meteorological data was from 2001 through 2005.

In reviewing this permit application, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC v. Thomas, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification should EPA revise the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators. A more detailed discussion of the required analyses follows.

PSD Class I Area: The California Puff (CALPUFF) dispersion model was used to evaluate the pollutant emissions from the proposed project in the Class I ENP beyond 50 km from the proposed project. Meteorological MM4 and MM5 data used in this model was from 2001, 2002 and 2003.

CALPUFF is a non-steady state, Lagrangian, long-range transport model that incorporates Gaussian puff dispersion algorithms. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, line, area, and volume sources.

The CALPUFF model has the capability to treat time-varying sources, is suitable for modeling domains from tens of meters to hundreds of kilometers, and has mechanisms to handle rough or complex terrain situations. Finally, the CALPUFF model is applicable for inert pollutants as well as pollutants that are subject to linear removal and chemical conversion mechanism.

Multi-source PSD Class II Increment Analysis

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant from a baseline concentration. The maximum predicted annual PM_{10}, SO_2, and NO_2 and maximum predicted high, second-high PSD Class II area impacts from this project and all other increment-consuming sources in the vicinity of the Okeechobee Landfill are shown in Table 24.

In no case is the impact greater than the allowable increment. However, during the interim operation scenario it is predicted that 91% of the allowable increment will be consumed. SO_2 emissions projected during the interim scenario are less than reported during 2007-2008 and substantially less than the PTE. Without installation of the GDP, it is possible that emissions in the future can fully consume or exceed the 24-hour allowable SO_2 increment. Therefore the Department requirement to install a GDF regardless of the LFGTE project is further justified.

Table 24 - PSD Class II Increment Analysis – Maximum from Four Operating Scenarios

Pollutant	Averaging Time	Max Predicted Impact ($\mu g/m^3$)	Allowable Increment ($\mu g/m^3$)	Impact Greater Than Allowable Increment?
SO_2	24-hour	83	91	NO
	3- hour	139	512	NO
	Annual	14	20	NO
NO_2	Annual	11	25	NO
PM_{10}	24-hour	6	30	NO
	Annual	1	17	NO

AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding a "background" concentration to the maximum modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. The results of the AAQS analysis are summarized in the table below. As shown in Table 25, emissions from the proposed facility are not expected to cause or contribute to a violation of an AAQS.

Table 25 - Ambient Air Quality Impacts – Maximum from Four Operating Scenarios

Pollutant	Averaging Time	Major Sources Impact ($\mu g/m^3$)	Background Conc. 2006- 2008 ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	Total Impact Greater Than AAQS?	Florida AAQS ($\mu g/m^3$)
SO_2	24-hour	92	11	103	NO	260
	3- hour	160	11	171	NO	1300
	Annual	15	5	20	NO	60
NO_2	Annual	11	19	30	NO	100
PM_{10}	24-hour	6	42	48	NO	150
	Annual	1	20	21	NO	50

Ozone

Ozone is an area-wide pollution problem and the solution to reducing ozone levels is broad-based local and regional reductions in NO_X and VOC emissions (the precursors to ozone formation). The Okeechobee Landfill Expansion will add less than PSD significant amounts of VOC and 766 TPY of NO_X.

To conclusively prove whether or not the 766 tons of NO_X will not cause or contribute to a violation, a very sophisticated and expensive model would need to be run for the entire region. The key inputs to the model would be traffic, power plants throughout the region, other industrial sources, and meteorology.

The Department graphed the NO_X and SO_2 emission trends during the period 1998-2007 from FPL fossil-fueled plants located in the Florida peninsula. The data source is the EPA Clean Markets Acid Rain database. The results are summarized in Figure 28.

During the period 1998-2007 there was a *decrease* from 98,500 to 31,800 TPY (68%) in NO_X emissions from the FP&L fossil fleet in peninsular Florida. Similarly there was a *decrease* from 221,400 to 50,900 TPY (77%) in SO_2

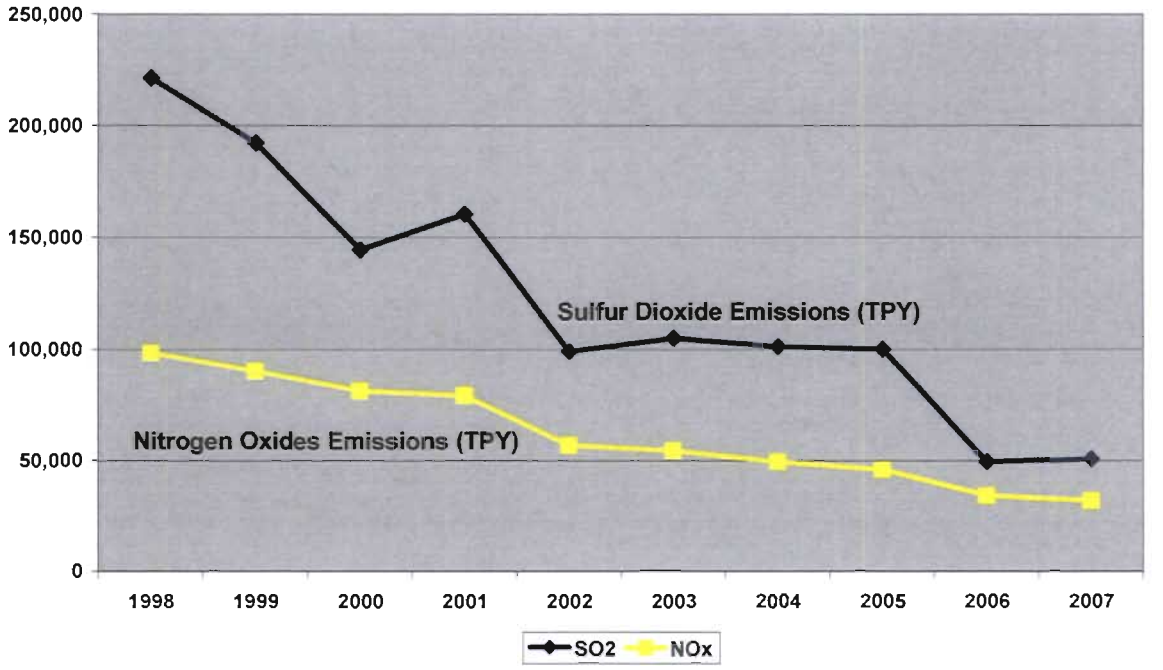


Figure 28 – SO_2 and NO_X reductions at FPL peninsular facilities (1998-2007)

It would be difficult to model overall ozone changes due to the OL LFGTE project within the context of ongoing and future NO_X reductions from FPL that are two or more orders of magnitude greater than the contribution from the OL LFGTE project.

Preconstruction Monitoring Analysis for SO_2 and Ozone

The closest ozone monitor is in adjacent St. Lucie County. Ozone is a regional pollutant therefore the monitor in St. Lucie is considered representative or at least is in a region where there are greater sources of VOC and NO_X than the landfill. The monitor in St. Lucie County is in compliance with the current and recently established ozone AAQS. Therefore, placing a preconstruction ozone monitor at the project site is not needed, nor required to obtain background air quality concentrations.

The closest SO_2 monitor is in Palm Beach County. The monitor is in attainment for SO_2. While this monitor is not representative of concentrations in Okeechobee County, is has remained in attainment with the AAQS even though the monitor is near a larger source of SO_2 than the OL.

8.5 Additional Impacts Analysis

Impact on Soils, Vegetation, and Wildlife:

As part of the Additional Impact Analysis, Air Quality Related Values (AQRV) are evaluated with respect to the Class I area. This includes the analysis of sulfur and nitrogen deposition for all proposed operating scenarios. The CALPUFF model is also used in this analysis to produce quantitative impacts. The results of the analysis show that nitrogen and sulfur deposition rates are less than the significant impact levels (0.01 kg/ha/yr) determined by the NPS.

According to the applicant, the predicted deposition rates of sulfur and nitrogen of 0.002 and 0.002 kg/ha/yr respectively, impacts are still much less than the buffering capacities of the soils in the ENP and much less than the observed deposition rates existing in the area.

Impact on Visibility:

The applicant submitted a regional haze analysis for the ENP. The analysis included modeling from the CALPUFF model. The proposed operating scenario which includes seven turbines, created the largest visibility impact on the ENP. This scenario produces impacts above the NPS visibility threshold of 5% for 1, 3 and 5 days for the years 2001, 2002 and 2003 respectively. No days were above 10%.

The NPS was provided the opportunity to comment regarding the aforementioned AQRV analysis, including visibility, for this project. Based on the information provided in the OL permit application and addendum, the National Park Service informed the Department that they "do not anticipate any significant impacts to air quality related values at Everglades National Park, Biscayne National Park, and Big Cypress National Preserve". The finding was premised on the short duration of the interim high SO_2 emissions prior to installation of the GDP.

Growth-Related Impacts Due to the Proposed Project:

According to the applicant, only 1 or 2 additional permanent personnel will be required due to this project. According to the applicant, no additional industrial, commercial or residential growth is expected from this project. Therefore, there will be no adverse impacts due to personnel growth.

9. 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.

DRAFT PERMIT

PERMITTEE:

Okeechobee Landfill, Inc.
(a Waste Management Company)
2856 Paces Ferry Road, Suite 1600
Atlanta, GA 30339

Responsible Official
John Van Gessel

Air Permit No. 0930104-014-AC
Expires: June 30, 2015
PSD-FL-382
SIC No. 4953
Okeechobee Landfill (OL)
Landfill Gas to Energy Project

PROJECT AND LOCATION:

This is the final air construction permit for a landfill gas to energy (LFGTE) project at the Okeechobee Landfill (OL) in Okeechobee County, Florida. The OL is located at 10800 N.E. 128th Avenue, Okeechobee County, Florida. The OL UTM coordinates are Zone 17; 530.28 kilometer (km) East; 3023.96 km North.

The permit requires construction of a landfill gas (LFG) desulfurization plant (GDP) for existing LFG and flares and authorizes the future installation a landfill gas to energy (LFGTE) plant using desulfurized LFG as fuel in combustion turbine-electrical generators (CTG) with back up open flares.

This final permit is organized into the following sections: Section 1 - General Information; Section 2 - Administrative Requirements; Section 3 - Emissions Unit Specific Conditions; and, Section 4 - Appendices. Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS:

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 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, including a determination of Best Available Control Technology (BACT).

Upon issuance of this final 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.

Executed in Tallahassee, Florida

_____ _____
Joseph Kahn, Director (Date)
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) 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.

John Van Gessel, Waste Management of Florida, Inc.: jvangessel@wm.com
Heather Abrams, U.S. EPA Region 4: abrams.heather@epa.gov
Kathleen Forney, U.S. EPA Region 4: forney.kathleen@epa.gov
Dee Morse, National Park Service, Denver CO: dee_morse@nps.gov
Lennon Anderson, DEP SED: lennon.anderson@dep.state.fl.us
David Buff, Golder Associates, Inc.: dbuff@golder.com

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

_____ _____
(Clerk) (Date)

FACILITY DESCRIPTION

Okeechobee Landfill, Inc. (a Waste Management Company) has operated a municipal solid waste (MSW) landfill in Okeechobee County since 1981. The 4,150 acre site contains the existing Berman Road landfill, the Clay Farms landfill and additional auxiliary services. The property boundary extends south to State Road (SR) 70 and east into neighboring St. Lucie County.

The presently active part of the landfill comprises 208 acres. The total acreage for which solid waste permits have been issued comprises 847 acres. Methane-rich LFG produced from the decomposition of waste materials placed in the landfill is collected by a LFG collection system (LFGCS). The collected LFG flared. The facility is currently operating under Title V air permit No. 0930104-016-AV.

PROPOSED PROJECT

The permit requires construction of a landfill gas (LFG) desulfurization plant (GDP) for existing LFG and flares and authorizes the future installation a landfill gas to energy (LFGTE) plant using desulfurized LFG as fuel in combustion turbine-electrical generators (CTG) with back up open flares.

In addition, as a result of this project, the LFGCS will be expanded and the existing system of flares will be shut down and replaced by an expanded system of open back up flares in a central flaring area.

As a result of these changes, significant pollutant emission increases will occur for nitrogen oxides (NO_X), sulfur dioxide (SO_2), carbon monoxide (CO), and particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}).

This LFGTEproject affects the following existing emissions units (EU) at the OL.

Facility ID No. 0930104	
EU ID No.	**Emission Unit Description**
001	Municipal solid waste landfill with LFGCS.
003	Enclosed flare with a capacity of 3,000 scfm, including a leachate evaporation unit.
004	Backup open flare with a capacity of 2,800 scfm.
005	Enclosed flare with a capacity of 3,000 scfm, including a leachate evaporation unit.
CD*-04	Temporary open flare with a capacity of 3,300 scfm for odor control.
CD*-05	Temporary open flare with a capacity of 3,000 scfm for odor control. Not constructed.

* Control Device (CD) number is used for these temporary flares.

The table on the following page is a list of the changes planned to the existing EU at the OL as well as the new EU authorized by this permit. In the table, EU in underlined text represents new emissions units addressed by this permit. EU 003 and 005 will be deactivated as a result of this project.

Facility ID No. 0930104	
EU ID No.	**Emission Unit Description**
001	Municipal solid waste landfill with LFGCS and GDP.
003	Existing enclosed flare with a capacity of 3,000 standard cubic feet per minute (scfm) and including a leachate evaporation unit. To be ultimately deactivated.
004 (004A) (004B)	Existing open backup flare with a capacity of 2,800 scfm to be relocated and replaced by two 1,500 scfm open flares (004A, 004B). Initially only 004A will be installed.
005	Enclosed flare with a capacity of 3,000 (scfm) and including a leachate evaporation unit. To be ultimately deactivated.
006	New open flare with a capacity of 3,000 scfm. In lieu of temporary odor control flare.
007	New open flare with a total capacity of 3,000 scfm. In lieu of temporary odor control flare.
008	New open flare with a total capacity of 3,000 scfm. Initial installation.
009	New open flare with a total capacity of 3,000 scfm. Initial installation.
016	One 15 MW Model Solar Titan 130 (T-130) CTG. Initial installation.
017 - 019	Three 3.5 MW Model Solar Centaur 40 (C-40) CTG. Initial installation.

REGULATORY CLASSIFICATION

- The facility is 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 a major stationary source in accordance with Rule 62-212.400, F.A.C., PSD.
- The facility is subject to 40 CFR 60 for New Source Performance Standards (NSPS) under Section 111 of the CAA.
- The facility is subject to 40 CFR 63 for National Emissions Standards for Hazardous Air Pollutants (NESHAP) under Section 112 of the Clean Air Act.

SECTION II ADMINISTRATIVE REQUIREMENTS (DRAFT PERMIT)

1. Permitting Authority: The Permitting Authority for this project is the Bureau of Air Regulation in the Division of Air Resource Management of the Department. The mailing address for the Bureau of Air Regulation is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Air Resource Section of the Department's Southeast District Office, 400 North Congress Avenue, Suite 200, West Palm Beach, FL 33401.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Southeast District Office. The mailing address of the Southeast District Office is 400 North Congress Avenue, Suite 200, West Palm Beach, FL 33401 and the phone number is 561-681-6600.

3. Existing Permits: Unless otherwise specified, these conditions are in addition to all other applicable air permit conditions and regulatory requirements. The permittee shall continue to comply with the conditions of previous permits, which include other restrictions and standards regarding capacities, production, operation, fuels, emissions, monitoring, record keeping, reporting, etc for the existing emissions units. The permittee shall continue to comply with all applicable conditions from valid air construction and Title V operation permits.
[Application No. 0930104-014-AC and Rule 62-4.070 (3), F.A.C.]

4. Appendices: The following Appendices are attached as a part of this permit and must be complied with by the permittee:
   a. Appendix A: NSPS Subpart A and NESHAP Subpart A - Identification of General Provisions
   b. Appendix AAAA: NESHAP Subpart AAAA for Municipal Solid Waste Landfills;
   c. Appendix CC: Common Conditions;
   d. Appendix CCD: Common Control Devices – Flares;
   e. Appendix CEMS: Continuous Emissions Monitoring System (CEMS) Requirements;
   f. Appendix CF: Citation Formats and Glossary of Common Terms;
   g. Appendix CTR: Common Testing Requirements;
   h. Appendix GC: General Conditions;
   i. Appendix KKKK: NSPS Subpart KKKK – Requirements for Gas Turbines and Duct Burners;
   j. Appendix SC: Standard Conditions;
   k. Appendix WWW: NSPS Subpart WWW – for Municipal Solid Waste Landfills; and,
   l. Appendix YYYY: NESHAP Subpart YYYY Requirements for Gas Turbines.

5. 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.

6. 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.]

7. Installation of GDP Required: The Department finds good cause requiring the permittee to conform to new or additional conditions. Therefore, the permittee is required to install and operate by December 31, 2011 a GDP such that all collected LFG shall be treated to a concentration less than or equal to 200 parts per million by volume of hydrogen sulfide (H_2S) by volume (ppmv) as determined by a H_2S continuous emission monitoring system (CEMS) prior to combustion whether or not the permittee builds a LFGTE plant.
[Rules 62-212.400, 62-4.070(3) and 62-4.080(1)(a), (b) and (c), F.A.C.]

8. Modifications: No emissions unit shall be constructed or 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.]

9. Source Obligation:

   (a) The permittee is required to install and operate a GDP whether or not a CTG and flares are constructed. Authorization to construct the CTG and additional flares shall expire if within 18 months after receipt of this permit, their construction has not commenced; if construction is discontinued for a period of 18 months or more unless authorized by the Permitting Authority, or if construction is not completed within a reasonable time as defined by the Permitting Authority. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit or by written approval by the Department.

   (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 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.

   (c) 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.]

10. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. To apply for a Title V operation permit, 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 each Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

11. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. Reasonable precautions include the following: a) Paving and maintenance of roads, parking areas and yards; b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d) Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulate from becoming airborne; e) Landscaping or planting of vegetation; f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g) Confining abrasive blasting where possible; and, h.) Enclosure or covering of conveyor systems. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice. [Rule 62-296.320(4)(c), F.A.C.]
12. Excess Emissions: Except as required by specific conditions of this permit dealing with excess emissions with regard to individual emission units, the following conditions apply to excess emissions at the OL.
    a. Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
    b. Malfunction: Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
    c. Department Discretion: Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
    d. Department Notification: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department 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, F.A.C.]
13. Objectionable Odors 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. and Rule 62-4.070, F.A.C. Reasonable Assurance]

    {Permitting Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as 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.}
14. Open Burning Prohibited: No person shall ignite, cause to be ignited, or permit to be ignited, any material which will result in any prohibited open burning as regulated by chapter 62-256, F.A.C.; nor shall any person suffer, allow, conduct or maintain any prohibited open burning.
    [Rule 62-256.300, F.A.C.]

SECTION III – EMISSION UNIT(S) SPECIFIC CONDITIONS (DRAFT PERMIT)

SUBSECTION A. MUNICIPAL SOLID WASTE LANDFILL, GDP AND LFGCS (EU 001)

The Specific Conditions listed in this subsection apply to the following emission unit:

EU ID No.	EMISSION UNIT DESCRIPTION
001	Okeechobee Landfill (OL): The OL comprises two landfills sites, the Berman Road landfill and the Clay Farms landfill. Each landfill is subject to Air and Solid Waste regulations. This Air Permit regulates only air pollutant emissions from the OL. The Solid Waste permit regulates among other requirements the capacity, disposal rate and the number of cells constructed. A summary of the OL follows: • Berman Road landfill: This is an existing emission unit 208 acres in size. This emission unit is expected to be closed by 2012. • Clay Farm landfill: This is a new 639 acre landfill located in another portion of the overall existing stationary source. This landfill is expected to be open by 2012. The maximum solid waste disposal rate at this landfill is specified at 7,000 tons per day in the Solid Waste Permit 0247963-001-SC. • GDP Plant: The OL is required to construct and operate a GDP plant to reduce H_2S concentrations in the LFG prior to its combustion. • LFGCS: The system used to collect the LFG prior to combustion in CTG or backup flares. The existing LFGCS will be expanded as a result of this project.

CONSTRUCTION

1. GDP: The permittee is required to install and operate by December 31, 2011 a GDP such that all collected LFG shall be treated to a concentration less than or equal to 200 ppmv H_2S (12 gr S/100 SCF) prior to combustion whether or not the permittee builds a LFGTE plant. [Rules 62-212.400, 62-4.070(3) and 62-4.080(1)(a), (b) and (c), F.A.C.]
2. LFGCS: By December 31, 2011 all LFG generated at the OL shall be collected at a sufficient extraction rate, while minimizing off-site migration of subsurface 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 3 years or more. [Rules 62-212.400 (PSD), 62-210.200 (BACT), 62-4.070 (3) and 62-296.320(2), F.A.C.]
   {Permitting Note: The time requirement is 3 years based on BACT and odor control and is more stringent than the 5 year time requirement in 40 CFR 60, Subpart WWW}

PERFORMANCE RESTRICTIONS

3. LFGCS Capacity: The permitted capacity of the LFGCS is 13,500 scfm on a 30 day rolling average basis. [Application No. 0930104-014-AC and Rules 62-212.400 and 62-4.070 (3), F.A.C].
4. GPD Capacity: The maximum permitted capacity of the GDP is 32,500 scfm of LFG on a 30 day rolling average basis (see **Condition 15a** of Appendix CEMS for definition of 30 day rolling average). [Application No. 0930104-014-AC and Rules 62-212.400 and 62-4.070 (3), F.A.C].
   {The permittee may construct a GDP of sufficient size to treat LFG throughout the projected lifetime of the OL even though the permitted capacity of the LFGCS is lower}
5. Restricted Operation: The hours of operation of this emissions unit with regard to the GDP and LFGCS are not limited (8,760 hours per year).
   [Application No. 0930104-014-AC and Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS LIMITATIONS

6. H_2S Concentration: The H_2S concentration in the LFG after it is treated by the GDP shall not exceed 200 ppmv (12 gr S/100 scf) prior to combustion. The H_2S content of the landfill gas shall be monitored in accordance with specific **Conditions 7 and 8** of this subsection.
[Rules 62-212.400 and 62-4.070(3), F.A.C.]

MONITORING REQUIREMENTS

7. LFG Monitoring. The permittee shall comply with the monitoring requirements of 40 CFR 60 Subpart WWW. [Rules 62-4.070 (3) F.A.C. and 40 CFR Part 60, Subpart WWW]

8. H_2S Continuous Monitoring System (CEMS): The permittee shall install a H_2S CEMS to continuously monitor and record the concentration of H_2S in the LFG after it is processed by the GDP and before it is combusted in the CTG or the backup flares. The CEMS shall be calibrated, maintained, and operated according to the manufacturer specifications. The LFG may be monitored at only one location if monitoring at this location accurately represents the concentration of H_2S in the LFG being combusted. The applicant shall notify the Compliance Authority of the CEMS location(s) 90 days before installation of the CEMS. Within 30 days of initial startup of H_2S CEMS (or startup of any new or replacement H_2S CEMS), the performance evaluations for this H_2S CEMS shall be done using Performance Specification 7. EPA Methods 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. [Design; Rules 62-210.200 (BACT) and 62-4.070(3), F.A.C.]

RECORDKEEPING AND REPORTING REQUIREMENTS

9. GDP Reports and Records: The permittee shall maintain the following reports and records on a monthly basis and submit a summary report to the compliance authority no later than 45 days after each calendar month: total daily and monthly gas flow rates in scfm; average daily and monthly H_2S concentration in the processed (cleaned) LFG in ppmv; and any GDP malfunctions and their cause along with the corrective actions taken. [Rules 62-4.070(3) and 62-210.200(BACT), F.A.C.]

10. H_2S LFG Concentration Exceedance: If an exceedance of the allowed H_2S concentration of 200 ppmv from the 'cleaned' LFG from the GDP occurs, based on a 30 day rolling average, the following information must be reported within 7 days of the exceedance to the Compliance Authority:
    - The date that the exceedance occurred;
    - An explanation of the exceedance;
    - A description of the action taken, if any;
    - For any periods for which monitoring data are not available, any changes made in operation of the CEMS system during the period of data unavailability which could affect the ability of the system to record the applicable H_2S concentration limit. Operations of the CEMS system and affected facility during periods of data unavailability are to be compared with operation of the CMS system and affected facility before and following the period of data unavailability; and,
    - A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

    [Rules 62-4.070(3) and 62-210.200(BACT), F.A.C.]

11. Reporting Requirements: At least five (5) working days prior to the completion of construction of the emissions source(s) authorized under this Permit, the owner/operator shall provide written notice to the Compliance Authority of the completion of the construction and its intent to commence operation. The notice shall specify when the construction will be completed and when the facility owner or operator expects to commence operation. [Rules 62-4.070 (3) F.A.C.]

12. Records and Reports. The permittee shall maintain a record of any information required by this Permit. Such records shall be retained for a minimum of five (5) years and shall be made available to the Department upon request. [Rules 62-4.070 (3) F.A.C.]

SUBSECTION B. OPEN FLARES (EU 004, 006, 007, 008, AND 009)

The Specific Conditions listed in this subsection apply to the following emission units:

EU ID No.	FLARES EMISSION UNIT DESCRIPTION
004	1,500 scfm Open Utility Flare
006	3,000 scfm Open Utility Flare
007	3,000 scfm Open Utility Flare
008	3,000 scfm Open Utility Flare
009	3,000 scfm Open Utility Flare

Operation of the flares described in this subsection shall meet all the applicable requirements specified in Appendix CCD of this permit.
[Application No. 0930104-014-AC and Rules 62-210.200(PTE), F.A.C.62-212.400 and 62-4.070 (3), F.A.C].

FLARES INSTALLATION AND CONSTRUCTION

1. Flares Installation and Construction: The permittee is authorized to install one 1,500 scfm open flare and four 3,000 scfm open flares with a continuous pilots and combustion chambers to combust LFG as necessary to backup the CTG that will combust the LFG to generate electrical power. The presence of flare pilot flames shall be monitored using thermocouples or any other equivalent device to detect the presence of a flame. [Application No. 0930104-014-AC and Rules 62-210.200(PTE), F.A.C.62-212.400 and 62-4.070 (3), F.A.C].
2. Flare Design. Unless otherwise indicated, the construction and operation of the flares shall be in accordance with the capacities and specifications stated in Application No. 0930104-014-AC and shall comply with the minimum requirements of 40 CFR 60.18 and 40 CFR 60, Subpart WWW. [Rule 62-210.300, F.A.C.]

PERFORMANCE RESTRICTIONS

3. Shutdown of Existing Flares: Ninety days before construction commences on the new flares authorized by this permit, the permittee shall submit to the Compliance Authority a flare shutdown plan detailing the schedule of how the existing flares will be shutdown as the new flares are constructed. Construction of the new flares cannot commence until the flare shutdown plan is approved by the Compliance Authority. The permittee shall notify the Compliance Authority 7 days before each existing flares is shutdown and removed. This permit does not regulate existing flares while still in operation. The existing flares are regulated by the current Title V air permit. [Rule 62-4.070 (3) F.A.C]
4. Permitted Capacity: The maximum permitted capacities of the new flares are: 1,500 scfm of LFG for EU 004 and 3,000 scfm of LFG for EU 006, 007, 008 and 009.
[Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070 (3) F.A.C.]
5. Restricted Operation: The hours of operation of these emission units are not limited (8,760 hours per year). However, the flares may only be operated when the CTG are unavailable due to maintenance or malfunction or when LFG flow rate is insufficient to support operation of a CTG.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
6. Flare H_2S Limit: Only treated LFG containing no more than 200 ppmv of H_2S on a 30 day rolling average shall be combusted in the flares.
[Rules 62-4.070(3), 62-212.400 (BACT) and 62-210.200(PTE), F.A.C.]

REGULATIONS

7. NSPS Requirements: These emissions units are subject to 40 CFR 60.18: General Control Devices" (see Appendix CCD of this permit), other applicable sections of 40 CFR 60, Subpart A (See Appendix A of this permit), and applicable provisions of 40 CFR 60 Subpart WWW (see Appendix WWW of this permit). [Rules 62-204.800, 62-210.300, F.A.C., and 40 CFR 60 Subparts WWW and A]

EMISSIONS STANDARDS

8. Visible Emissions (VE) Standard. The flares shall be designed for and operated with no visible emissions (VE) as determined by the methods specified in paragraph 40 CFR 60.18 (f), except for period not to exceed a total of 5 minutes during any 2 consecutive hours.
[Rules 62-4.070 (3) and 62-212.400 (BACT), F.A.C. and 40 CFR 60.18]

TESTING AND MONITORING REQUIREMENTS

9. VE Compliance Tests: New open flares shall be tested to demonstrate initial compliance with the VE standard given in **Condition 8** above no later than 180 days after initial operation and during each federal fiscal year (October 1st to September 30th) thereafter. The EPA Method 22 VE compliance test shall be used to determine the compliance of the flares with the VE standard. [Rule 62-4.070(3), F.A.C.]

10. Continuous Monitoring Devices: Proper devices for the continuous monitoring and recording of the total LFG flow rate and flame temperature at each flare, shall be installed prior to the collection and combustion of the LFG. The permittee 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.

    (3) Flare alarm or auto dialer to notify the operator in case of a flare malfunctions or emergency.

    [Rule 62-4.070 (3) F.A.C., 40 CFR 60.756 (c)]

11. Flame Presence Visual Inspection Monitoring: Flares shall be operated with a flame present at all times as determined by the methods specified in 40 CFR 60.18 (f). The permittee shall continuously monitor the presence of a flame with the flare operation. The owner or operator shall perform a visual inspection of the flare on a daily basis. [Rule 62-4.070 (3) F.A.C., 40 CFR 60.18]

12. Flare Heat Content and Tip Velocity Specification: In accordance with 40CFR60.18(c)(3), for each open flare, the owner or operator of this facility shall select to adhere to the heat content specifications of 40CFR60.18(c)(3)(ii) or the maximum tip velocity specifications of 40CFR60.18(c)(4) or adhere to the requirements of 40 CFR 60.18(c)(3)(i). If the owner or operator decides to change the selected flare operating specification then the Compliance Authority shall be notified in writing within ten (10) calendar days of the change.

13. Inspection and Maintenance of the Flares: The owner or operator shall inspect all flare components on a monthly basis. Monitoring of the condensate pump shall be performed on a monthly basis. Maintenance of the flare and condensate pump on a quarterly basis. All gas monitoring equipment shall be calibrated on an as needed basis. If any problems are found during an inspection or maintenance, then the problem(s) and corrective action(s) taken shall be listed in the report. The inspection and maintenance reports shall be kept on site and made available to Department's Southeast District Office upon request. [Rule 62-4.070 (3) F.A.C., 40 CFR 60.756 (c)]

14. Flare Malfunctions and Emergencies: When this facility is in operation, an on-site flare alarm or an auto dialer shall be maintained in working order at all times that notifies the appropriate on-site personnel the flare is out of service. Response to the alarm or auto dialer shall occur within eight (8) hours of receiving the alert. If the flare cannot be brought back online within ten (10) hours of the alert, the owner or operator shall notify the Department's Southeast District Office within 24 hours. All appropriate measures shall also be taken to limit emissions until the flare is again operating properly. [Rule 62-4.070 (3) F.A.C.]

15. 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 CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

4. Test Methods: Any required stack tests shall be performed in accordance with the following methods:

Method	Description of Method and Comments
EPA 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares, 2 Hour Duration

16. Work Practice: Good combustion practices will be utilized at all times to ensure emissions from the flare system are minimized. Therefore, all operators and supervisors shall be properly trained to operate and ensure maintenance of this system in accordance with the guidelines and procedures established by the manufacturer. The training shall include good operating practices as well as methods for minimizing excess emissions. [Rules 62-4.070(3) F.A.C.]

17. LFG Flow Rate: The permittee is required to record the total gas flow rate in scfm to each flare on a monthly average basis and measure the sulfur content of the LFG on a 30 day rolling average basis, and report the flow rate and sulfur content results monthly to the Compliance Authority. [Rule 62-4.070 (3) F.A.C.]

RECORDS AND REPORTS

18. Records: The permittee shall record in a written log the duration of each flare event and the reason for flaring. If requested by the Compliance Authority, the permittee shall provide a copy of these records or a summary of these records. [Rule 62-4.070(3), F.A.C.]

19. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(8), F.A.C.]

20. Reporting Requirements: At least five (5) working days prior to the completion of construction of the source(s) authorized under this Permit, the owner/operator shall provide written notice to the Department's Southeast District Office of its intent to commence operation. The notice shall specify when the construction will be completed and when the facility owner or operator expects to commence operation. [Rules 62-4.070 (3) F.A.C.]

21. Records and Reports. The permittee shall maintain a record of any information required by this Permit. Such records shall be retained for a minimum of five (5) years and shall be made available to the Department upon request. [Rules 62-4.070 (3) F.A.C.]

SUBSECTION C. SOLAR T-130 CTG (EU-016)

The Specific Conditions listed in this subsection apply to the following emission unit that is part of the LFGTE plant at the OL:

EU ID No.	Emission Units Description
016	15 MW Solar Titan 130 (T-130) CTG

EQUIPMENT

1. CTG: The permittee shall install, tune, operate and maintain a simple cycle CTG consisting of: one 15 MW LFG-fueled Solar T-130 CTG; an inlet air filtration system; one automated CTG control system; and one CTG stack. [Application No. 0930104-014-AC and Rule 62-4.070(3), F.A.C.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment, including any equipment integral to the CTG, or allow the emission of air pollutants without this equipment operating properly. [Rules 62-210.650 and Rule 62-4.070(3), F.A.C.]
3. NO_X CEMS: In accordance with §60.4335(b) and §60.4345, the permittee shall install, calibrate, operate and maintain a CEMS to continuously monitor and record NO_X emissions from the CTG exhaust. The CEMS shall be installed, calibrated and properly functioning within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup and prior to the initial performance tests.
[Rule 62-4.070(3), F.A.C.; and Subpart KKKK in 40 CFR 60]

PERFORMANCE RESTRICTIONS

4. Authorized Fuels: The only authorized fuel for use in the CTG is treated LFG containing no more than 200 ppmv of H_2S of on a 30 day rolling average basis.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
5. CTG Permitted Capacity: The maximum heat input rate of the CTG is 150 million British thermal units per hour (mmBtu/hr) on a 4 hour averaging time basis and based on the lower heating value (LHV) of the LFG. This rate is based on a compressor inlet temperature of 59 °F, International Organization for Standardization (ISO) conditions of the LFG. The heat input rate will vary depending upon CTG characteristics, ambient conditions, alternate methods of operation and evaporative cooling (if installed). The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department.
[Application No. 0930104-014-AC; and Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
6. Restricted Operation: The hours of operation of this emission unit is not limited (8,760 hours per year).
[Application No. 0930104-014-AC; and Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

NSPS APPLICABILITY

7. NSPS Subpart KKKK Applicability: The CTG is subject to all applicable requirements of 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines which applies to combustion turbines and duct burners constructed after February 18, 2005.
[Rule 62-204.800(7)(b), F.A.C. and 40 CFR 60.4300, NSPS - Subpart KKKK - Standards of Performance for Stationary Combustion Turbines (see Appendix KKKK)].

NESHAP APPLICABILITY

8. NESHAP Subpart YYYY Applicability: This facility is a major source of HAP. This CTG is potentially subject to 40 CFR 63, Subpart YYYY - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines. The applicability of this rule has been stayed for lean premix and diffusion flame gas-fired combustion turbines such as planned for this project. For the applicable requirements of NESHAP, Subpart YYYY to this CTG see Appendix YYYY of this permit.

EMISSION LIMITS

9. Emission Standards: The following standards are at least as stringent as the Subpart KKKK limits described in **Condition 7** above and in Appendix KKKK of this permit. Emissions from this CTG shall not exceed the following standards.

Pollutant	Method of Operation	Initial/Annual Stack Test 3-Run Average [a]		CEMS-Based Averages [g]	
		ppmvd [b]	lb/hr [f]	ppmvd [b]	lb/hr [f]
CO	LFG	100	78.4	N/A	N/A
NO_X [c]	LFG	72	46.4	72 4-hour block average [g]	46.4 4-hour block average [g]
PM/PM_{10} [d]	LFG	N/A	2.8	N/A	
		200 ppmv H_2S in LFG			
		Visible emissions shall not exceed 10% opacity for each 6-minute block average.			
SAM/SO_2 [e]	LFG	200 ppmv H_2S in LFG			

a. All tests conducted at 90-100 percent (%) load.

b. Parts per million by volume, dry corrected to 15% oxygen

c. The initial and annual EPA Method 7E or Method 20 tests associated with demonstration of compliance with 40 CFR 60, Subpart KKKK or certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards during the time of those tests. NO_X mass emission rates are defined as oxides of nitrogen expressed as nitrogen dioxide (NO_2). Continuous compliance with the 4-hour rolling average NO_X standards shall be demonstrated based on data collected by the required CEMS.

d. After the initial compliance test the sulfur fuel specification combined with the efficient combustion design and operation of the CTG shall indicate compliance. Compliance with the fuel specifications and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard shall be demonstrated by conducting tests in accordance with EPA Method 9.

e. The LFG H_2S specification effectively limits the potential emissions of SAM and SO_2 from the CTG. Compliance with the LFG H_2S specification of 200 ppmv shall be determined by H_2S CEMS. Such representative LFG CEMS data will insure that the sulfur content of the LFG (a type of biogas) does not exceed (0.15 lb SO_2/mmBtu) heat input limitation of 40 CFR 60, Subpart KKKK.

f. The mass emission rate standards are based on a turbine inlet condition of 59 °F. Mass emission rate may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.

g. CEMS monitoring compliance shall in accordance with the 40 CFR 60, NSPS, Subpart KKKK for NO_X.

[Application No. 0930104-014-AC; and Rules 62-4.070(3), 62-212.400 (BACT) and 62-210.200(PTE), F.A.C.]

EXCESS EMISSIONS

10. Definitions Related to Excess Emissions: Rule 62-210.200 (Definitions), F.A.C. defines the following terms.
    a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
    b. *Shutdown* is the cessation of the operation of an emissions unit for any purpose.
    c. *Malfunction* is defined as any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.
11. 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. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.]
12. Excess Emissions Calculations: The following conditions apply only to the SIP-based emissions standards specified above in this subsection. Rule 62-210.700, F.A.C. (Excess Emissions) cannot vary or supersede any federal NSPS or NESHAP. As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions supersede the provisions in Rule 62-210.700(1), F.A.C.
    a. *NO_X Emissions*: Excess NO_X emissions based on a 4-hour block average standard shall be calculated in accordance with the NSPS Subpart KKKK provisions.

TEST METHODS AND PROCEDURES

13. Initial Compliance Tests: The CTG shall be tested to demonstrate initial compliance with the emissions standards for CO, NO_X, PM/PM_{10} and opacity. 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. The CTG shall demonstrate compliance with the NO_X standard in accordance with the methods specified in NSPS Subpart KKKK of 40 CFR 60. Compliance tests shall be performed in accordance with reference methods as described in 40 CFR 60, Appendix A and 40 CFR 51 Appendix M, adopted by reference in Chapter 62-204.800, F.A.C. [Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]
14. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the CTG shall be tested to demonstrate compliance with the emissions standards for CO and opacity. The CTG shall demonstrate compliance with the NO_X standard in accordance with the methods specified in NSPS Subpart KKKK of 40 CFR 60. [Rule 62-297.310(7)(a)4, F.A.C.]
15. 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 CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]
16. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of NO_X Emissions from Stationary Sources.
9	Visual Determination of the Opacity of Emissions from Stationary Sources.
10	Determination of CO Emissions from Stationary Sources The method shall be based on a continuous sampling train.

Method	Description of Method and Comments
19	Determination of SO_2 Removal Efficiency and PM, SO_2 and NO_X Emission Rates Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.

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.; and Appendix A of 40 CFR 60]

CONTINUOUS MONITORING REQUIREMENTS

17. CEMS: The permittee shall install, calibrate, maintain and operate CEMS and a diluent monitor to measure and record the emissions of NO_X from the CTG in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. The monitoring system shall be installed, calibrated and properly functioning within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup and prior to the initial performance tests. Within one working day of discovering emissions in excess of the NO_X standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority (see Appendix CEMS of this permit).

    a. *NO_X Monitor:* The NO_X monitor shall be certified, operated and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO_X monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60.

    b. *Diluent Monitor:* The oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas shall be monitored at the location where CO and NO_X are monitored to correct the measured emissions rates to 15% oxygen. If a CO_2 monitor is installed, the oxygen content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.

OTHER MONITORING REQUIREMENTS

18. LFG Flow Measurements: The permittee shall install and maintain a device that measures the flow of LFG to the CTG. Total LFG flow to the CTG shall be continuously measured and recorded. [Rules 62-4.070 (8) F.A.C.]

RECORDS AND REPORTS

19. Monitoring of Capacity: The permittee shall monitor and record the operating rate of CTG on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown and malfunction). This shall be achieved through monitoring daily rates of consumption and heat content of the allowable fuel in accordance with the provisions of Appendix D in 40 CFR 75 and recording the data using a monitoring component of the CEMS system required above. [Rule 62-4.070(3), F.A.C. and 40 CFR 75]

20. Stack Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Compliance Authority on the results of each such test. The required test report shall be filed with the Compliance Authority 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 Compliance Authority to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report shall provide the applicable information specified in Rule 62-297.310(8), F.A.C. and summarized in Appendix CTR of this permit. [Rule 62-297.310(8), F.A.C.]

SUBSECTION D. SOLAR T-40 CTG (EU-017, 018 AND 019)

The Specific Conditions listed in this subsection apply to the following emission units that are part of the LFGTE plant at the OL:

EU ID No.	Emission Units Description
017	3.5 MW Solar Centaur 40 (C-40) CTG
018	3.5 MW Solar Centaur 40 (C-40) CTG
019	3.5 MW Solar Centaur 40 (C-40) CTG

EQUIPMENT

1. CTG: The permittee shall install, tune, operate and maintain three simple cycle CTG consisting of: 3.5 MW LFG-fueled Solar C-40 CTG; inlet air filtration systems; automated CTG control systems; and CTG stack. [Application No. 0930104-014-AC and Rule 62-4.070(3), F.A.C.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment, including any equipment integral to the CTG, or allow the emission of air pollutants without this equipment operating properly. [Rules 62-210.650 and Rule 62-4.070(3), F.A.C.]
3. NO_X CEMS: In accordance with §60.4335(b) and §60.4345, the permittee shall install, calibrate, operate and maintain a CEMS to continuously monitor and record NO_X emissions from the exhaust of each CTG. Each CEMS shall be installed, calibrated and properly functioning within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup and prior to the initial performance tests.
[Rule 62-4.070(3), F.A.C.; and Subpart KKKK in 40 CFR 60]

PERFORMANCE RESTRICTIONS

4. Authorized Fuels: The only authorized fuel for use in each CTG is treated LFG containing no more than 200 ppmv of H_2S of on a 30 day rolling average basis.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
5. CTG Permitted Capacity: The design heat input rate of each CTG is 45 mmBtu/hr (4 hour averaging time basis) based on lower heating value (LHV) of the LFG. This rate is based on a compressor inlet temperature of 59 °F, International Organization for Standardization (ISO) conditions. The heat input rate will vary depending upon combustion turbine characteristics, ambient conditions, alternate methods of operation and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department.
6. Restricted Operation: The hours of operation of these EUs are not limited (8,760 hours per year).
[Application No. 0930104-014-AC; and Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

NSPS APPLICABILITY

7. NSPS Subpart KKKK Applicability: These CTG are subject to all applicable requirements of 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines which applies to combustion turbines and duct burners constructed after February 18, 2005.
[Rule 62-204.800(7)(b), F.A.C. and 40 CFR 60.4300, NSPS - Subpart KKKK - Standards of Performance for Stationary Combustion Turbines (see Appendix KKKK)].

NESHAP APPLICABILITY

8. NESHAP Subpart YYYY Applicability: This facility is a major source of HAP. These CTG are potentially subject to 40 CFR 63, Subpart YYYY - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines. The applicability of this rule has been stayed for lean premix and diffusion flame gas-fired combustion turbines such as planned for this project. For the applicable requirements of NESHAP, Subpart YYYY to these CTG see Appendix YYYY of this permit.

EMISSION LIMITS

9. Emission Standards: The following standards are at least as stringent as the Subpart KKKK limits described in **Condition 7** above and in Appendix KKK of this permit. Emissions from each of these CTG shall not exceed the following standards.

Pollutant	Method of Operation	Initial/Annual Stack Test 3-Run Average [a]		CEMS-Based Averages [g]	
		ppmvd [b]	lb/hr [f]	ppmvd [b]	lb/hr [f]
CO	LFG	250	28.6	N/A	N/A
NO_X [c]	LFG	42	7.9	42 4 hour block average [g]	7.9 4 hour block average
PM/PM_{10} [d]	LFG	N/A	2.8	N/A	
		200 ppmv H_2S in LFG			
		Visible emissions shall not exceed 10% opacity for each 6-minute block average.			
SAM/SO_2 [e]	LFG	200 ppmv H_2S in LFG			

a. All tests conducted at 100 percent (%) load.

b. Parts per million by volume dry corrected to 15% oxygen

c. The initial and annual EPA Method 7E or Method 20 tests associated with demonstration of compliance with 40 CFR 60, Subpart KKKK or certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards during the time of those tests. NO_X mass emission rates are defined as oxides of nitrogen expressed as nitrogen dioxide (NO_2). Continuous compliance with the 4 hour average NO_X standards shall be demonstrated based on data collected by the required CEMS.

d. After the initial compliance test the sulfur fuel specification combined with the efficient combustion design and operation of each CTG shall indicate compliance. Compliance with the fuel specifications and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard shall be demonstrated by conducting tests in accordance with EPA Method 9.

e. The LFG H_2S specification effectively limits the potential emissions of SAM and SO_2 from each CTG. Compliance with the LFG H_2S specification of 200 ppmv shall be determined by H_2S CEMS. Such representative LFG CEMS data will insure that the sulfur content of the LFG (a type of biogas) does not exceed (0.15 lb SO_2/mmBtu) heat input limitation of 40 CFR 60, Subpart KKKK.

f. The mass emission rate standards are based on a turbine inlet condition of 59 °F. Mass emission rate may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.

g. CEMS monitoring compliance shall in accordance with the 40 CFR 60, NSPS, Subpart KKKK for NO_X.

[Application No. 0930104-014-AC; and Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EXCESS EMISSIONS

10. Definitions Related to Excess Emissions: Rule 62-210.200(Definitions), F.A.C. defines the following terms.
    a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
    b. *Shutdown* is the cessation of the operation of an emissions unit for any purpose.
    c. *Malfunction* is defined as any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.
11. 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. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.]
12. Excess Emissions Calculations: The following conditions apply only to the SIP-based emissions standards specified above in this subsection. Rule 62-210.700, F.A.C. (Excess Emissions) cannot vary or supersede any federal NSPS and NESHAP. As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions supersede the provisions in Rule 62-210.700(1), F.A.C.
    a. *NO_X Emissions*: Excess NO_X emissions based on the 4 hour block average standard shall be calculated in accordance with the NSPS Subpart KKKK provisions.

TEST METHODS AND PROCEDURES

13. Initial Compliance Tests: Each CTG shall be tested to demonstrate initial compliance with the emissions standards for CO, NO_X, PM/PM_{10} and opacity. 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. Each CTG shall demonstrate compliance with the NO_X standard in accordance with the methods specified in NSPS Subpart KKKK of 40 CFR 60. Compliance tests shall be performed in accordance with reference methods as described in 40 CFR 60, Appendix A and 40 CFR 51 Appendix M, adopted by reference in Chapter 62-204.800, F.A.C. [Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]
14. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), each CTG shall be tested to demonstrate compliance with the emissions standards for CO and opacity. Each CTG shall demonstrate compliance with the NO_X standard in accordance with the methods specified in NSPS Subpart KKKK of 40 CFR 60. [Rule 62-297.310(7)(a)4, F.A.C.]
15. 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 CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]
16. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of NO_X Emissions from Stationary Sources.
9	Visual Determination of the Opacity of Emissions from Stationary Sources.
10	Determination of CO Emissions from Stationary Sources The method shall be based on a continuous sampling train.

Method	Description of Method and Comments
19	Determination of SO_2 Removal Efficiency and PM, SO_2 and NO_X Emission Rates Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.

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.; and Appendix A of 40 CFR 60]

CONTINUOUS MONITORING REQUIREMENTS

17. CEMS: The permittee shall install, calibrate, maintain and operate CEMS and a diluent monitor to measure and record the emissions of NO_X from each CTG in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. The monitoring systems shall be installed, calibrated and properly functioning within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup and prior to the initial performance tests. Within one working day of discovering emissions in excess of the NO_X standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority (see Appendix CEMS of this permit).

    a. *NO_X Monitor:* The NO_X monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO_X monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60.

    b. *Diluent Monitor:* The oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas shall be monitored at the location where CO and NO_X are monitored to correct the measured emissions rates to 15% oxygen. If a CO_2 monitor is installed, the oxygen content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.

OTHER MONITORING REQUIREMENTS

18. LFG Flow Measurements: The permittee shall install and maintain a device that measures the flow of LFG to each CTG. Total LFG flow to each CTG shall be continuously measured and recorded. [Rules 62-4.070(3) F.A.C.]

RECORDS AND REPORTS

19. Monitoring of Capacity: The permittee shall monitor and record the operating rate of each CTG on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown and malfunction). This shall be achieved through monitoring daily rates of consumption and heat content of the allowable fuel in accordance with the provisions of Appendix D in 40 CFR 75 and recording the data using a monitoring component of the CEMS system required above. [Rule 62-4.070(3), F.A.C. and 40 CFR 75]

20. Stack Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Compliance Authority on the results of each such test. The required test report shall be filed with the Compliance Authority 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 Compliance Authority to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report shall provide the applicable information specified in Rule 62-297.310(8), F.A.C. and summarized in Appendix CTR of this permit. [Rule 62-297.310(8), F.A.C.]

CONTENTS

Appendix A:	NESHAP, Subpart A and NSPS, Subpart A - Identification of General Provisions.
Appendix AAAA:	NESHAP, Subpart AAAA for Municipal Solid Waste Landfills.
Appendix CC:	Common Conditions.
Appendix CCD:	Common Control Devices – Flares.
Appendix CEMS:	Continuous Emissions Monitoring Systems (CEMS) Requirements.
Appendix CF:	Citation Formats and Glossary of Common Terms.
Appendix CTR:	Common Testing Requirements.
Appendix GC:	General Conditions.
Appendix KKKK:	NSPS, Subpart KKKK Requirements for Gas Turbines and Duct Burners.
Appendix SC:	Standard Conditions.
Appendix WWW:	NSPS, Subpart WWW for Municipal Solid Waste Landfills.
Appendix YYYY:	NESHAP, Subpart YYYY Requirements for Gas Turbines.

DRAFT

NSPS SUBPART A AND NESHAP SUBPART A - IDENTIFICATION OF GENERAL PROVISIONS

The provisions of this Subpart may be provided in full upon request. Emissions units subject to a New Source Performance Standard of 40 CFR 60 are also subject to the applicable requirements of Subpart A, the General Provisions, including:

§ 60.1 Applicability.

§ 60.2 Definitions.

§ 60.3 Units and abbreviations.

§ 60.4 Address.

§ 60.5 Determination of construction or modification.

§ 60.6 Review of plans.

§ 60.7 Notification and Record Keeping.

§ 60.8 Performance Tests.

§ 60.9 Availability of information.

§ 60.10 State Authority.

§ 60.11 Compliance with Standards and Maintenance Requirements.

§ 60.12 Circumvention.

§ 60.13 Monitoring Requirements.

§ 60.14 Modification.

§ 60.15 Reconstruction.

§ 60.16 Priority List.

§ 60.17 Incorporations by Reference.

§ 60.18 General Control Device Requirements.

§ 60.19 General Notification and Reporting Requirements.

Individual subparts may exempt specific equipment or processes from some or all of these requirements. The general provisions may be provided in full upon request.

NESHAP - SUBPART A, IDENTIFICATION OF GENERAL PROVISIONS

The provisions of this Subpart may be provided in full upon request. Emissions units subject to a National Emission Standards for Hazardous Air Pollutants of 40 CFR 63 are also subject to the applicable requirements of Subpart A, the General Provisions, including:

§ 63.1 Applicability.

§ 63.2 Definitions.

§ 63.3 Units and abbreviations.

§ 63.4 Prohibited Activities and Circumvention.

§ 63.5 Preconstruction Review and Notification Requirements.

§ 63.6 Compliance with Standards and Maintenance Requirements.

§ 63.7 Performance Testing Requirements.

§ 63.8 Monitoring Requirements.

§ 63.9 Notification Requirements.

§ 63.10 Recordkeeping and Reporting Requirements.

§ 63.11 Control Device Requirements.

§ 63.12 State Authority and Delegations.

§ 63.13 Addresses of State Air Pollution Control Agencies and EPA Regional Offices.

§ 63.14 Incorporation by Reference.

§ 63.15 Availability of Information and Confidentiality.

Individual subparts may exempt specific equipment or processes from some or all of these requirements. The general provisions may be provided in full upon request.

DRAFT

SECTION IV. APPENDIX AAAA

NESHAP, SUBPART AAAA FOR MUNICIPAL SOLID WASTE LANDFILLS

The OL is subject to the applicable requirements of NESHAP Subpart AAAA for Municipal Solid Waste Landfills. Below is a link to Subpart AAAA.

NESHAP, Subpart AAAA

DRAFT

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

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: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such 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 with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit.

    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

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 department for any regulatory purpose.

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.

(4) Beginning with 2007 annual emissions, 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.

[Rule 62-210.370, F.A.C.]

DRAFT

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) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f).

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

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

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, Vmax, 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, Vmax, as determined by the method specified in paragraph (f)(6).

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

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

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

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

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

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

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

where:

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

K = Constant as defined as:

$$1.740 x 10^{-7}\left(\frac{1}{ppm}\right)\left(\frac{gmole}{scm}\right)\left(\frac{MJ}{kcal}\right)$$

where the standard temperature for (gmole/scm) is 20°C;

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

H_i =Net heat of combustion of sample component i, kcal/ g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual 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 (H_T)

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

8.706 = Constant

0.7084 = Constant

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

CEMS OPERATION PLAN

1. CEMS Operation Plan: The owner or operator shall create and implement a facility-wide plan for the proper installation, calibration, maintenance and operation of each CEMS required by this permit. The owner or operator shall submit the CEMS Operation Plan to the Bureau of Air Monitoring and Mobile Sources for approval at least 60 days prior to CEMS installation. The CEMS Operation Plan shall become effective 60 days after submittal or upon its approval. If the CEMS Operation Plan is not approved, the owner or operator shall submit a new or revised plan for approval.

   {Permitting Note: The Department maintains both guidelines for developing a CEMS Operation Plan and example language that can be used as the basis for the facility-wide plan required by this permit. Contact the Emissions Monitoring Section of the Bureau of Air Monitoring and Mobile Sources at (850)488-0114.}

INSTALLATION, PERFORMANCE SPECIFICATIONS AND QUALITY ASSURANCE

2. Timelines:

   a. *New and Existing Emission Units.* For new emission units, the owner or operator shall install each CEMS required by this permit prior to initial startup of the unit. The owner or operator shall conduct the appropriate performance specification for each CEMS within 90 operating days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup.

3. Installation: All CEMS shall be installed such that representative measurements of emissions or process parameters from the facility are obtained. The owner or operator shall locate the CEMS by following the procedures contained in the applicable performance specification of 40 CFR part 60, Appendix B.

4. Span Values and Dual Range Monitors: The owner or operator shall set appropriate span values for the CEMS. The owner or operator shall install dual range monitors if required by and in accordance with the CEMS Operation Plan.

5. Continuous Flow Monitor: For compliance with mass emission rate standards, the owner or operator shall install a continuous flow monitor to determine the stack exhaust flow rate. The flow monitor shall be certified pursuant to 40 CFR part 60, Appendix B, Performance Specification 6.

6. Diluent Monitor: If it is necessary to correct the CEMS output to the oxygen concentrations specified in this permit's emission standards, the owner or operator shall either install an oxygen monitor or install a CO_2 monitor and use an appropriate F-Factor computational approach.

7. Moisture Correction: If necessary, the owner or operator shall determine the moisture content of the exhaust gas and develop an algorithm to enable correction of the monitoring results to a dry basis (0% moisture).

   {Permitting Note: The CEMS Operation Plan will contain additional CEMS-specific details and procedures for installation.}

8. Performance Specifications: The owner or operator shall evaluate the acceptability of each CEMS by conducting the appropriate performance specification, as follows. CEMS determined to be unacceptable shall not be considered installed for purposes of meeting the timelines of this permit.

   a. *NO_X Monitor:* For a NO_X monitor, the owner or operator shall conduct Performance Specification 2 of 40 CFR part 60, Appendix B.

9. Quality Assurance: The owner or operator shall follow the quality assurance procedures of 40 CFR part 60, Appendix F.

   a. *NO_X Monitors:* The required RATA tests shall be performed using EPA Method 7E in Appendix A of 40 CFR part 60. NO_X shall be expressed "as NO_2."

10. Substituting RATA Tests for Compliance Tests: Data collected during CEMS quality assurance RATA tests can substitute for annual stack tests, and vice versa, at the option of the owner or operator, provided the owner or operator indicates this intent in the submitted test protocol and follows the procedures outlined in the CEMS Operation Plan.

CALCULATION APPROACH

11. CEMS Used for Compliance: Once adherence to the applicable performance specification for each CEMS is demonstrated, the owner or operator shall use the CEMS to demonstrate compliance with the applicable emission standards as specified by this permit.

12. CEMS Data: Each CEMS shall monitor and record emissions during all periods of operation and whenever emissions are being generated, including during episodes of startups, shutdowns, and malfunctions. All data shall be used, except for invalid measurements taken during monitor system breakdowns, repairs, calibration checks, zero adjustments and span adjustments, and except for allowable data exclusions as per Condition 19 of this appendix.

13. Operating Hours and Operating Days: For purposes of this appendix, the following definitions shall apply. An hour is the 60-minute period beginning at the top of each hour. Any hour during which an emissions unit is in operation for more than 15 minutes is an operating hour for that emission unit. A day is the 24-hour period from midnight to midnight. Unless otherwise specified by this permit, any day with at least one operating hour for an emissions unit is an operating day for that emission unit.

14. Valid Hourly Averages: Each CEMS shall be designed and operated to sample, analyze and record data evenly spaced over the hour at a minimum of one measurement per minute. All valid measurements collected during an hour shall be used to calculate a 1-hour block average that begins at the top of each hour.

   a. Hours that are not operating hours are not valid hours.

   b. For each operating hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, there is insufficient data, the 1-hour block average is not valid, and the hour is considered as "monitor unavailable."

15. Calculation Approaches: The owner or operator shall implement the calculation approach specified by this permit for each CEMS, as follows:

   a. *Rolling 30-day average.* Compliance shall be determined after each operating day by calculating the arithmetic average of all the valid hourly averages from that operating day and the prior 30-1 operating days.

   b. *Block 4-hour average.* Compliance shall be determined for each block averaging period by calculating the arithmetic average of all valid hourly averages occurring within that block averaging period. (Hours 0, 1, 2 and 4are the first 4-hour block; hours 5, 6, 7 and 8 are the second 3-hour block; etc.)

MONITOR AVAILABILITY

16. Monitor Availability: The quarterly excess emissions report shall identify monitor availability for each quarter in which the unit operated. Monitor availability for the CEMS shall be 95% or greater in any calendar quarter in which the unit operated for more than 760 hours. In the event the applicable availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving the required availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

EXCESS EMISSIONS

17. Definitions:

    a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.

    b. *Shutdown* means the cessation of the operation of an emissions unit for any purpose.

    c. *Malfunction* means any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

18. 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.

19. Data Exclusion Procedures for SIP Compliance: As per the procedures in this condition, limited amounts of CEMS emissions data may be excluded from the corresponding compliance demonstration, provided that best operational practices to minimize emissions are adhered to and the duration of data excluded is minimized. The data exclusion procedures of this condition apply only to SIP-based emission limits.

    a. *Excess Emissions.* Data in excess of the applicable emission standard may be excluded from compliance calculations if the data are collected during periods of permitted excess emissions (for example, during startup, shutdown or malfunction). The maximum duration of excluded data is 2 hours in any 24-hour period, unless some other duration is specified by this permit. For the CEMS on the HRSG stacks at the OL facility, excess emissions of NO_X during periods of startup, shutdown and malfunction cannot be excluded. This is to ensure that the 250 TPY emission limits for these pollutants are not exceeded which if they were would trigger PSD regulations.

    b. *Limited Data Exclusion.* If the compliance calculation using all valid CEMS emission data, as defined in Condition 12 of this appendix, indicates that the emission unit is in compliance, then no CEMS data shall be excluded from the compliance demonstration.

    c. *Event Driven Exclusion.* The underlying event (for example, the startup, shutdown or malfunction event) must precede the data exclusion. If there is no underlying event, then no data may be excluded. Only data collected during the event may be excluded.

    d. *Reporting Excluded Data.* The data exclusion procedures of this condition are not necessarily the same procedures used for excess emissions as defined by federal rules. Quarterly or semi-annual reports required by this permit shall indicate not only the duration of data excluded from SIP compliance calculations but also the number of excess emissions as defined by federal rules.

20. Notification Requirements: The owner or operator shall notify the Compliance Authority within one working day of discovering any emissions that demonstrate noncompliance for a given averaging period. Within one working day of occurrence, the owner or operator shall notify the Compliance Authority of any malfunction resulting in the exclusion of CEMS data. For malfunctions, notification is sufficient for the owner or operator to exclude CEMS data.

ANNUAL EMISSIONS

21. CEMS Used for Calculating Annual Emissions: All valid data, as defined in Condition 12 of this appendix, shall be used when calculating annual emissions.
    a. Annual emissions shall include data collected during startup, shutdown and malfunction periods.
    b. Annual emissions shall include data collected during periods when the emission unit is not operating but emissions are being generated (for example, when firing fuel to warm up a process for some period of time prior to the emission unit's startup).
    c. Annual emissions shall not include data from periods of time where the monitor was functioning properly but was unable to collect data while conducting a mandated quality assurance/quality control activity such as calibration error tests, RATA, calibration gas audit or RAA. These periods of time shall be considered missing data for purposes of calculating annual emissions.
    d. Annual emissions shall not include data from periods of time when emissions are in excess of the calibrated span of the CEMS. These periods of time shall be considered missing data for purposes of calculating annual emissions.
22. Accounting for Missing Data: All valid measurements collected during each hour shall be used to calculate a 1-hour block average. For each hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, the owner or operator shall account for emissions during that hour using site-specific data to generate a reasonable estimate of the 1-hour block average.
23. Emissions Calculation: Hourly emissions shall be calculated for each hour as the product of the 1-hour block average and the duration of pollutant emissions during that hour. Annual emissions shall be calculated as the sum of all hourly emissions occurring during the year.

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 CRF 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit

acfm: actual cubic feet per minute

ARMS: Air Resource Management System (Department's database)

BACT: best available control technology

Btu: British thermal units

CAM: compliance assurance monitoring

CEMS: continuous emissions monitoring system

cfm: cubic feet per minute

CITATION FORMATS AND GLOSSARY OF COMMON TERMS

CFR: Code of Federal Regulations

CO: carbon monoxide

COMS: continuous opacity monitoring system

DEP: Department of Environmental Protection

Department: Department of Environmental Protection

dscfm: dry standard cubic feet per minute

EPA: Environmental Protection Agency

ESP: electrostatic precipitator (control system for reducing particulate matter)

EU: emissions unit

F.A.C.: Florida Administrative Code

F.D.: forced draft

F.S.: Florida Statutes

FGR: flue gas recirculation

F: fluoride

ft^2: square feet

ft^3: cubic feet

gpm: gallons per minute

gr: grains

HAP: hazardous air pollutant

Hg: mercury

I.D.: induced draft

ID: identification

kPa: kilopascals

lb: pound

MACT: maximum achievable technology

MMBtu: million British thermal units

MSDS: material safety data sheets

MW: megawatt

NESHAP: National Emissions Standards for Hazardous Air Pollutants

NO_X: nitrogen oxides

NSPS: New Source Performance Standards

O&M: operation and maintenance

O_2: oxygen

Pb: lead

PM: particulate matter

PM_{10}: particulate matter with a mean aerodynamic diameter of 10 microns or less

PSD: prevention of signifi9cant deterioration

psi: pounds per square inch

PTE: potential to emit

RACT: reasonably available control technology

RATA: relative accuracy test audit

SAM: sulfuric acid mist

scf: standard cubic feet

scfm: standard cubic feet per minute

SIC: standard industrial classification code

SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)

SO_2: sulfur dioxide

TPH: tons per hour

TPY: tons per year

UTM: Universal Transverse Mercator coordinate system

VE: visible emissions

VOC: volatile organic compounds

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

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 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.]

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 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and 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 or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

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

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

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

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

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

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

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

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

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

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 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 (X);
    b. Determination of Prevention of Significant Deterioration (X);
    c. Compliance with National Emission Standards for Hazardous Air Pollutants (X); and
    d. Compliance with New Source Performance Standards (X).

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 or 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:

        1) The date, exact place, and time of sampling or measurements;
        2) The person responsible for performing the sampling or measurements;
        3) The dates analyses were performed;
        4) The person responsible for performing the analyses;
        5) The analytical techniques or methods used; and
        6) The results of such analyses.

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

NSPS SUBPART KKKK REQUIREMENTS FOR GAS TURBINES

All the OL Solar CTG shall comply with all applicable requirements of 40 CFR 60, Subpart KKKK-- Standards of Performance for Stationary Combustion Turbines.

The full provisions may be accessed at the below web link:

Link to Subpart KKKK

Table 1 is a listing of the NO_X limits from Subpart KKKK that apply to the OL LFGCP simple cycle CTG.

Table 1. NO_X Emission Limits for New Stationary Combustion Turbines[1]. Subpart KKKK of Part 60.

CT Type	CT Heat Input at Peak Load (HHV)	NO_X Emission Standard
New turbine firing fuels other than natural gas	<50 MMBtu/hour	42 ppmvd[2] at 15% oxygen
New turbine firing fuels other than natural gas	> 50 MMBtu/hour and ≤ 850 MMBtu/hour	74 ppmvd[3] at 15% oxygen

1. Only the portion of the table that includes the NO_X requirements applicable to the OL LFGCP CTG.
2. NO_X emission standard on a 4-hour block average basis that applies to Solar Centaur Model C-40 (3.5 MW) CTG.
3. NO_X emission standard on a 4-hour block average basis that applies to Solar Titian Model T-130 (15 MW) CTG.

DRAFT

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

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 two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [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 permitee shall notify the Department or the appropriate Local Program 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 or organic solvents 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) and62-210.200(203), 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 percent opacity. [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.]

TESTING REQUIREMENTS

10. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the

stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

11. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. 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. [Rule 62-297.310(2), F.A.C.]

12. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

13. Test Procedures: Tests shall be conducted in accordance with all applicable requirements of Chapter 62-297, F.A.C.

    a. Required Sampling Time. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. The minimum observation period for a visible emissions compliance test shall be thirty (30) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur.

    b. Minimum Sample Volume. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

    c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

    [Rule 62-297.310(4), F.A.C.]

14. Determination of Process Variables

    c. 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.

    d. 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.]

15. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C.

16. Test Notification: 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. [Rule 62-297.310(7)(a)9, F.A.C.]

17. 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)(b), F.A.C.]

18. 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, other than for an EPA or DEP Method 9 test, shall provide the following information:

    1) The type, location, and designation of the emissions unit tested.
    2) The facility at which the emissions unit is located.
    3) The owner or operator of the emissions unit.
    4) 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.
    5) 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.
    6) The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
    7) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
    8) The date, starting time and duration of each sampling run.
    9) The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
    10) The number of points sampled and configuration and location of the sampling plane.
    11) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
    12) The type, manufacturer and configuration of the sampling equipment used.
    13) Data related to the required calibration of the test equipment.
    14) Data on the identification, processing and weights of all filters used.

15) Data on the types and amounts of any chemical solutions used.

16) Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

17) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

18) All measured and calculated data required to be determined by each applicable test procedure for each run.

19) The detailed calculations for one run that relate the collected data to the calculated emission rate.

20) 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.

21) A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. 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.]

RECORDS AND REPORTS

19. 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 five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]

20. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

SECTION IV. APPENDIX WWW

NSPS SUBPART WWW FOR MUNICIPAL SOLID WASTE LANDFILLS

The OL is subject to the applicable requirements of NSPS Subpart WWW for Municipal Solid Waste Landfills. Below is a web link to Subpart WWW.

NSPS, Subpart WWW

DRAFT

NESHAP SUBPART YYYY REQUIREMENTS FOR GAS TURBINES

All the CTG at the OL are subject to the applicable requirements of 40 CFR 63, Subpart YYYY for gas turbines. The provisions of this Subpart may be provided in full upon request.

Staying of the Rule

On August 18, 2004, EPA stayed the effectiveness of 40 CFR 63, Subpart YYYY for lean premix gas turbines such as those proposed for the West County Project. Following is the change in 40 CFR 63 that stays effectiveness:

§ 63.6095(d) Stay of standards for gas-fired subcategories.

If you start up a new or reconstructed stationary combustion turbine that is a lean premix gas-fired stationary combustion turbine or diffusion flame gas-fired stationary combustion turbine as defined by this subpart, you must comply with the Initial Notification requirements set forth in Sec. 63.6145 but need not comply with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the Federal Register.

Requirements

The applicable requirements in Subpart YYYY are:

§ 63.6145 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), 63.8(f)(4), and 63.9(b) and (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you start up your new or reconstructed stationary combustion turbine before March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after March 5, 2004.

(c) As specified in § 63.9(b), if you start up your new or reconstructed stationary combustion turbine on or after March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(d) If you are required to submit an Initial Notification but are otherwise not affected by the emission limitation requirements of this subpart, in accordance with § 63.6090(b), your notification must include the information in § 63.9(b)(2)(i) through (v) and a statement that your new or reconstructed stationary combustion turbine has no additional emission limitation requirements and must explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary combustion turbine).

(e) If you are required to conduct an initial performance test, you must submit a notification of intent to conduct an initial performance test at least 60 calendar days before the initial performance test is scheduled to begin as required in § 63.7(b)(1).

(f) If you are required to comply with the emission limitation for formaldehyde, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test.

[Rules 62-4.070(3) and 62-204.800, F.A.C.; Subparts A and YYYY in 40 CFR 63]

Walker, Elizabeth (AIR)

From: Walker, Elizabeth (AIR)
Sent: Monday, February 01, 2010 6:24 PM
To: 'jvangessel@wm.com'
Cc: 'abrams.heather@epamail.epa.gov'; 'Forney.Kathleen@epamail.epa.gov'; 'dee_morse@nps.gov'; Anderson, Lennon; 'Mr. David A. Buff, P.E., Golder Associates, Inc.'; Linero, Alvaro; Heron, Teresa; Gibson, Victoria; Livingston, Sylvia
Subject: BERMAN ROAD LANDFILL; 0930104-014-AC/PSD-FL-382
Attachments: INTENT382.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

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).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0930104.014.AC.D_pdf.zip

Owner/Company Name: OKEECHOBEE LANDFILL, INC.
Facility Name: BERMAN ROAD LANDFILL
Project Number: 0930104-014-AC/PSD-FL-382
Permit Status: DRAFT
Permit Activity: CONSTRUCTION/Landfill Gas to Energy Project
Facility County: OKEECHOBEE

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "*Air Permit Documents Search*" website at http://www.dep.state.fl.us/air/emission/apds/default.asp .

Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation.

Thank you,

Elizabeth Walker
Bureau of Air Regulation
Division of Air Resource Management (DARM)
(850)921-9505

Tracking:

Recipient	Delivery	Read
'jvangessel@wm.com'		
'abrams.heather@epamail.epa.gov'		
'Forney.Kathleen@epamail.epa.gov'		
'dee_morse@nps.gov'		
Anderson, Lennon	Delivered: 2/1/2010 6:24 PM	Read: 2/2/2010 7:39 AM
'Mr. David A. Buff, P.E., Golder Associates, Inc.'		
Linero, Alvaro	Delivered: 2/1/2010 6:24 PM	Read: 2/1/2010 6:25 PM
Heron, Teresa	Delivered: 2/1/2010 6:24 PM	
Gibson, Victoria	Delivered: 2/1/2010 6:24 PM	Read: 2/2/2010 9:42 AM
Livingston, Sylvia	Delivered: 2/1/2010 6:24 PM	Read: 2/2/2010 8:25 AM

Walker, Elizabeth (AIR)

From: VanGessel, John [JVanGessel@wm.com]
Sent: Monday, February 01, 2010 6:45 PM
To: Walker, Elizabeth (AIR)
Subject: RE: BERMAN ROAD LANDFILL; 0930104-014-AC/PSD-FL-382

I was able to review the permit documents through the link. Thanks

---

From: Walker, Elizabeth (AIR) [mailto:Elizabeth.Walker@dep.state.fl.us]
Sent: Monday, February 01, 2010 6:24 PM
To: VanGessel, John
Cc: abrams.heather@epamail.epa.gov; Forney.Kathleen@epamail.epa.gov; dee_morse@nps.gov; Anderson, Lennon; Mr. David A. Buff, P.E., Golder Associates, Inc.; Linero, Alvaro; Heron, Teresa; Gibson, Victoria; Livingston, Sylvia
Subject: BERMAN ROAD LANDFILL; 0930104-014-AC/PSD-FL-382

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

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).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0930104.014.AC.D_pdf.zip

Owner/Company Name: OKEECHOBEE LANDFILL, INC.
Facility Name: BERMAN ROAD LANDFILL
Project Number: 0930104-014-AC/PSD-FL-382
Permit Status: DRAFT
Permit Activity: CONSTRUCTION/Landfill Gas to Energy Project
Facility County: OKEECHOBEE

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the *"Air Permit Documents Search"* website at http://www.dep.state.fl.us/air/emission/apds/default.asp .

Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation.

Thank you,

Elizabeth Walker
Bureau of Air Regulation
Division of Air Resource Management (DARM)

Walker, Elizabeth (AIR)

From: Buff, Dave [DBuff@GOLDER.com]
Sent: Wednesday, February 03, 2010 1:46 PM
To: Walker, Elizabeth (AIR)
Subject: RE: BERMAN ROAD LANDFILL; 0930104-014-AC/PSD-FL-382

David A. Buff, P.E., Q.E.P. | Principal Engineer | Golder Associates Inc.
6026 NW 1st Place, Gainesville, Florida, USA 32607
Tel: +1 (352) 336-5600 ext. 21145 Fax: +1 (352) 336-6603 | Cell: +1 352 514-5600 |
E: dbuff@golder.com | **www.golder.com**

Work Safe, Home Safe

This email transmission is confidential and may contain proprietary information for the exclusive use of the intended recipient. Any use, distribution or copying of this transmission, other than by the intended recipient, is strictly prohibited. If you are not the intended recipient, please notify the sender and delete all copies. Electronic media is susceptible to unauthorized modification, deterioration, and incompatibility. Accordingly, the electronic media version of any work product may not be relied upon.

Please consider the environment before printing this email.

From: Walker, Elizabeth (AIR) [mailto:Elizabeth.Walker@dep.state.fl.us]
Sent: Monday, February 01, 2010 6:24 PM
To: jvangessel@wm.com
Cc: abrams.heather@epamail.epa.gov; Forney.Kathleen@epamail.epa.gov; dee_morse@nps.gov; Anderson, Lennon; Buff, Dave; Linero, Alvaro; Heron, Teresa; Gibson, Victoria; Livingston, Sylvia
Subject: BERMAN ROAD LANDFILL; 0930104-014-AC/PSD-FL-382

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

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).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0930104.014.AC.D_pdf.zip

Owner/Company Name: OKEECHOBEE LANDFILL, INC.
Facility Name: BERMAN ROAD LANDFILL
Project Number: 0930104-014-AC/PSD-FL-382
Permit Status: DRAFT
Permit Activity: CONSTRUCTION/Landfill Gas to Energy Project
Facility County: OKEECHOBEE

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the *"Air Permit Documents Search"* website at http://www.dep.state.fl.us/air/emission/apds/default.asp .

Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation.

Thank you,

Elizabeth Walker
Bureau of Air Regulation
Division of Air Resource Management (DARM)
(850)921-9505

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.