Permit Application

APPLICATION FOR TITLE V RENEWAL

City of Vero Beach Municipal Utilities
Vero Beach, Florida

Prepared For: City of Vero Beach
100 17th Street
Vero Beach, FL 32960

Submitted By: Golder Associates Inc.
6026 NW 1st Place
Gainesville, FL 32607 USA

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Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

RECEIVED
MAY 22 2012
DIVISION OF AIR RESOURCE MANAGEMENT

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **City of Vero Beach**	
2. Site Name: **City of Vero Beach Municipal Utilities**	
3. Facility Identification Number: **0610029**	
4. Facility Location... Street Address or Other Locator: **100 17th Street** City: **Vero Beach** County: **Indian River** Zip Code: **32960**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Mr. Randall McCamish, Acting Power Resources Director**
2. Application Contact Mailing Address... Organization/Firm: **City of Vero Beach** Street Address: **100 17th Street; P.O. Box 1389** City: **Vero Beach** State: **FL** Zip Code: **32961-1389**
3. Application Contact Telephone Numbers... Telephone: **(772) 978-5050** ext. Fax: **(772) 978-5090**
4. Application Contact E-mail Address: **RMcCamish@covb.org**

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 5-22-2012	3. PSD Number (if applicable):
2. Project Number(s): 0610029-009-AV	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

☐ Air construction permit.

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

☐ Initial Title V air operation permit.

☐ Title V air operation permit revision.

☒ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application is for the renewal of Title V Permit No. 0610029-006-AV for the City of Vero Beach Municipal Utilities Power Plant, which expires on December 31, 2012.

The facility consists of four fossil fuel-fired steam generating units (Units 1, 2, 3, and 4) and one combined-cycle gas turbine unit (Unit 5), which are the regulated emissions units.

Unregulated emissions units and/or activities at the facility are the two fuel oil storage tanks (1,560,000 gal and 3,108,000 gal), one diesel tank (for Unit 5 startup generator), lube oil tanks and vents (one each for Units 1-5) (EU ID 006 for all tanks), and the waste water treatment plant (EU ID 007).

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
001	Fossil Fuel Steam Generator Unit 1	AF2A	N/A
002	Fossil Fuel Steam Generator Unit 2	AF2A	N/A
003	Fossil Fuel Steam Generator Unit 3	AF2A	N/A
004	Fossil Fuel Steam Generator Unit 4	AF2A	N/A
005	Combined Cycle Gas Turbine Unit 5	AF2A	N/A

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Owner/Authorized Representative Telephone Numbers... Telephone: ( ) ext. Fax: ( )
4. Owner/Authorized Representative E-mail Address:
5. Owner/Authorized Representative Statement: *I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.* _____ _____ Signature Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:
Randall McCamish, Acting Power Resources Director

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

- ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
- ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
- ☒ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
- ☐ The designated representative at an Acid Rain source or CAIR source.

3. Application Responsible Official Mailing Address...
Organization/Firm: **City of Vero Beach**
Street Address: **100 17th Street; P.O. Box 1389**
City: **Vero Beach** State: **FL** Zip Code: **32691-1389**

4. Application Responsible Official Telephone Numbers...
Telephone: **(772) 978-5050** ext. Fax: **(772) 978-5090**

5. Application Responsible Official E-mail Address: **Rmccamish@covb.org**

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

Randall McCamish (signature) 5/21/2012

Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Kennard F. Kosky**
   Registration Number: **14996**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6026 NW 1st Place**
   City: **Gainesville** State: **FL** Zip Code: **32607**
3. Professional Engineer Telephone Numbers...
   Telephone: (**352**) **336-5600** ext. Fax: (**352**) **336-6603**
4. Professional Engineer E-mail Address: **kkosky@golder.com**
5. Professional Engineer Statement:

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

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

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

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☒, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☐, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature 5/17/12
Date

(seal)

* Attach any exception to certification statement.
**Board of Professional Engineers Certificate of Authorization #00001670.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **561.4** North (km) **3056.5**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **27/37/52** Longitude (DD/MM/SS) **80/22/33**	
3. Governmental Facility Code: **4**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment : **Emission units designated in this application correspond to those in FDEP Permit No. 0610029-007-AV. The facility consists of four fossil fuel-fired steam generating units (Unit 1, 2, 3, and 4) and one combined-cycle gas turbine unit (Unit 5) with an associated unfired heat recovery steam generator (HRSG).**			

Facility Contact

1. Facility Contact Name: **Mr. Randall McCamish, Acting Power Resources Director**
2. Facility Contact Mailing Address... Organization/Firm: **City of Vero Beach** Street Address: **100 17th Street** City: **Vero Beach** State: **FL** Zip Code: **32691-1389**
3. Facility Contact Telephone Numbers: Telephone: **(772) 978-5050** ext. Fax: **(772) 978-5090**
4. Facility Contact E-mail Address: **RMcCamish@covb.org**

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) ext. Fax: ( )
4. Facility Primary Responsible Official E-mail Address:

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☐ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☐ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

Combined-cycle gas turbine Unit 5 is subject to NSPS Subpart GG, Standards of Performance for New Stationary Gas Turbines.

Fossil fuel-fired steam generator Unit 4 is subject to NSPS Subpart D, Standards of Performance for Fossil Fuel-Fired Steam Generators (Construction after August 17, 1971).

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	**A**	**N**
PM10	**A**	**N**
SO2	**A**	**N**
NOx	**A**	**N**
CO	**A**	**N**
SAM	**A**	**N**
HAPS	**A**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility-Wide Cap [Y or N]? (all units)	3. Emissions Unit ID's Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-FI-C1** ☐ Previously Submitted, Date:_____

2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-FI-C2** ☐ Previously Submitted, Date:_____

3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-FI-C3** ☐ Previously Submitted, Date:_____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID:_____ ☐ Not Applicable (existing permitted facility)

2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL):
   ☐ Attached, Document ID:_____

3. Rule Applicability Analysis:
   ☐ Attached, Document ID:_____

4. List of Exempt Emissions Units:
   ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)

5. Fugitive Emissions Identification:
   ☐ Attached, Document ID:_____ ☐ Not Applicable

6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.):
   ☐ Attached, Document ID:_____ ☐ Not Applicable

7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.):
   ☐ Attached, Document ID:_____ ☐ Not Applicable

8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.):
   ☐ Attached, Document ID:_____ ☐ Not Applicable

9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID:_____ ☐ Not Applicable

10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID:_____ ☐ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units:
   ☐ Attached, Document ID: _____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities: (Required for initial/renewal applications only)
   ☒ Attached, Document ID: **VB-FI-CV1** ☐ Not Applicable (revision application)

2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-FI-CV2**
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
   ☒ Attached, Document ID: **VB-FI-CV3**
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
   ☒ Attached, Document ID: **VB-FI-CV4**
   ☐ Equipment/Activities Onsite but Not Required to be Individually Listed
   ☐ Not Applicable

5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
   ☐ Attached, Document ID: _____ ☒ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☒ Attached, Document ID: **VB-FI-CV6** ☒ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

   Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):
   ☐ Attached, Document ID:_____ ☒ Previously Submitted, Date: **Jun 07, 2007**
   ☐ Not Applicable (not an Acid Rain source)

   Phase II NO_X Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

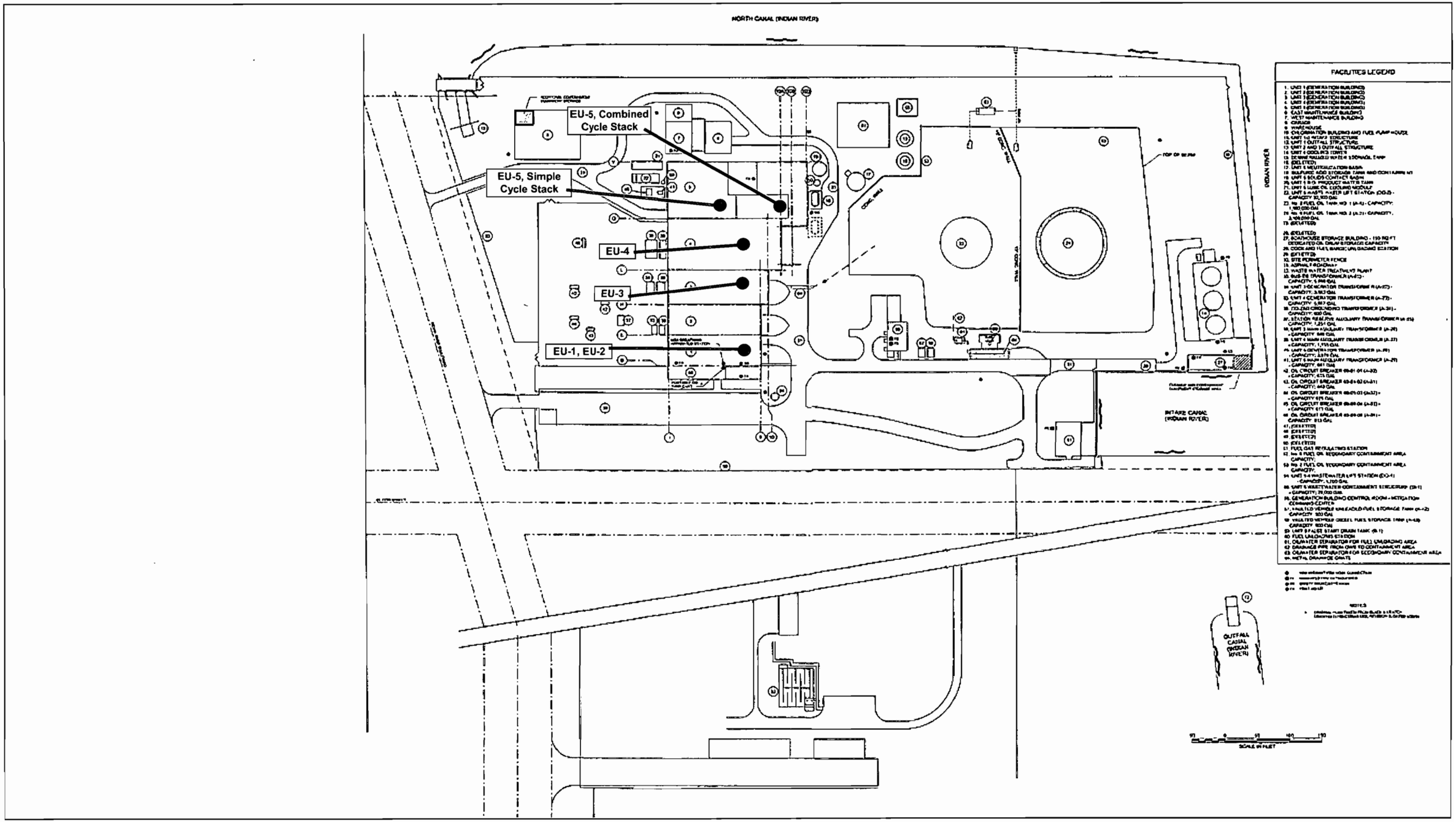
   New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):
   ☐ Attached, Document ID:_____ ☒ Previously Submitted, Date: **Jun 11, 2008**
   ☐ Not Applicable (not a CAIR source)

Additional Requirements Comment

ATTACHMENT VB-FI-C1

FACILITY PLOT PLAN



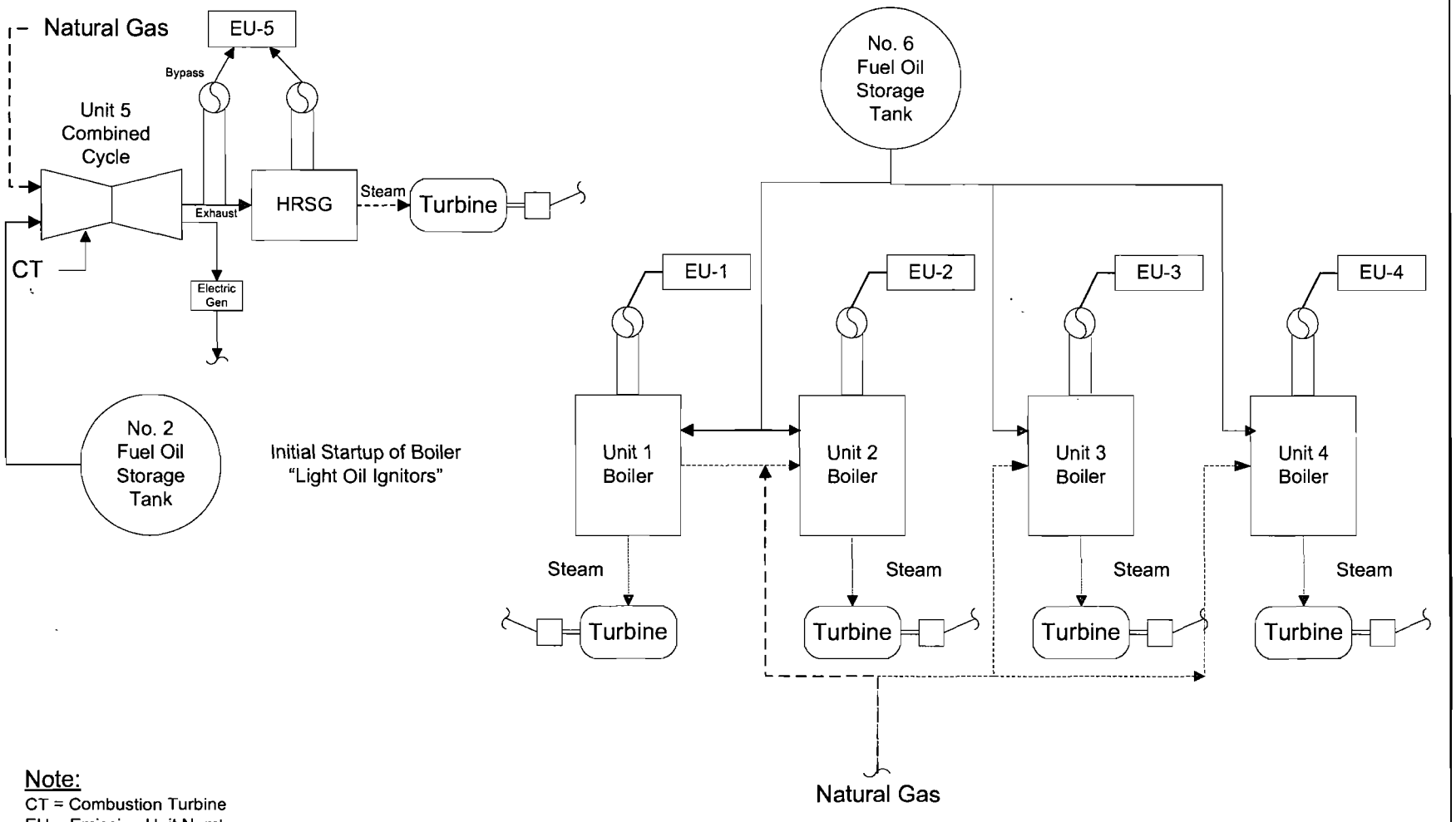
Attachment VB-FI-C1
Facility Plot Plan, City of Vero Beach Municipal Utilities

Source: R.W. Beck, 2000; Black & Veatch, 2001; Golder, 2002.
Y:\Projects\2011\113-87747 CoVB TVRen\Final\Att\FI\VB-FI-C1.docx

Golder Associates

ATTACHMENT VB-FI-C2

PROCESS FLOW DIAGRAM



Note:
CT = Combustion Turbine
EU = Emission Unit Number
HRSG = Heat Recovery Steam Generator
See Segment Information for process operating rates for emission units.

Attachment VB-FI-C2
Facility Process Flow Diagram

City of Vero Beach Municipal Power Plant - Vero Beach, Florida

Process Flow Legend
Solid/Liquid
Gas
Steam

Golder Associates

ATTACHMENT VB-FI-C3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

ATTACHMENT VB-FI-C3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

The facility has negligible amounts of unconfined particulate matter as a result of the operation of the facility, such as fugitive dust from paved and unpaved roads. Operational measures are undertaken at the facility to minimize particulate emissions, in accordance with Rule 62-296.320(4)(c)2, F.A.C.:

- Maintenance of paved areas as needed
- Regular mowing of grass and care of vegetation
- Limiting access to plant property by unnecessary vehicles
- Care in handling and use of bagged chemical products

ATTACHMENT VB-FI-CV1

LIST OF INSIGNIFICANT ACTIVITIES

ATTACHMENT VB-FI-CV1
LIST OF INSIGNIFICANT EMISSION UNITS AND/OR ACTIVITIES

A list of existing units and/or activities that are considered to be insignificant and are exempted from Title V permitting under Rule 62-213.430(6), F.A.C., is presented below. The exempt activities listed are also those activities that are included in Rule 62-210.300(3)(a), F.A.C., which would not exceed the thresholds in Rule 62-213.430(6)(b)3, F.A.C.

Brief description of emissions units and/or activities at the City of Vero Beach Municipal Utilities facility:

- Vapor extractor rooftop vents, one each for Units 1-4
- Cooling tower
- Diesel fuel tank for vehicles and gasoline tank for vehicles (500 gallon capacity each)

ATTACHMENT VB-FI-CV2

IDENTIFICATION OF APPLICABLE REQUIREMENTS

ATTACHMENT VB-FI-CV2
IDENTIFICATION OF APPLICABLE REQUIREMENTS
TITLE V CORE LIST

Effective: 03/01/02

(Updated based on current version of FDEP Air Rules)

[Note: The Title V Core List is meant to simplify the completion of the "List of Applicable Regulations" for DEP Form No. 62-210.900(1), Application for Air Permit - Long Form. The Title V Core List is a list of rules to which all Title V Sources are presumptively subject. The Title V Core List may be referenced in its entirety, or with specific exceptions. The Department may periodically update the Title V Core List.]

Federal: ***(description)***

40 CFR 60, Subpart GG: Standards of Performance for Stationary gas turbines.
40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR 82: Protection of Stratospheric Ozone.
40 CFR 82, Subpart B: Servicing of Motor Vehicle Air Conditioners (MVAC).
40 CFR 82, Subpart F: Recycling and Emissions Reduction.
40 CFR 98, Subpart A: Mandatory Reporting of Greenhouse Gases.
40 CFR 98, Subpart C: General Stationary Combustion Sources.

State: ***(description)***

CHAPTER 62-4, F.A.C.: PERMITS, effective 03-16-08

62-4.030, F.A.C.: General Prohibition.
62-4.040, F.A.C.: Exemptions.
62-4.050, F.A.C.: Procedure to Obtain Permits; Application.
62-4.060, F.A.C.: Consultation.
62-4.070, F.A.C.: Standards for Issuing or Denying Permits; Issuance; Denial.
62-4.080, F.A.C.: Modification of Permit Conditions.
62-4.090, F.A.C.: Renewals.
62-4.100, F.A.C.: Suspension and Revocation.
62-4.110, F.A.C.: Financial Responsibility.
62-4.120, F.A.C.: Transfer of Permits.
62-4.130, F.A.C.: Transferability of Definitions.
62-4.150, F.A.C.: Review.
62-4.160, F.A.C.: Permit Conditions.
62-4.210, F.A.C.: Construction Permits.
62-4.220, F.A.C.: Operation Permit for New Sources.

CHAPTER 62-210, F.A.C.: STATIONARY SOURCES - GENERAL REQUIREMENTS, effective 03-28-12

62-210.300, F.A.C.: Permits Required.
62-210.300(1), F.A.C.: Air Construction Permits.
62-210.300(2), F.A.C.: Air Operation Permits.
62-210.300(3), F.A.C.: Exemptions.
62-210.300(5), F.A.C.: Notification of Startup.
62-210.300(6), F.A.C.: Emissions Unit Reclassification.
62-210.300(7), F.A.C.: Transfer of Air Permits.
62-210.350, F.A.C.: Public Notice and Comment.
62-210.350(1), F.A.C.: Public Notice of Proposed Agency Action.

62-210.350(2), F.A.C.: Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment-Area Preconstruction Review.
62-210.350(3), F.A.C.: Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources.

62-210.360, F.A.C.: Administrative Permit Corrections.
62-210.370, F.A.C.: Emissions Computation and Reporting.
62-210.400, F.A.C.: Emission Estimates.
62-210.650, F.A.C.: Circumvention.
62-210.700, F.A.C.: Excess Emissions.

62-210.900, F.A.C.: Forms and Instructions.
62-210.900(1), F.A.C.: Application for Air Permit – Title V Source, Form and Instructions.
62-210.900(5), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions.
62-210.900(7), F.A.C.: Application for Transfer of Air Permit – Title V and Non-Title V Source.

CHAPTER 62-212, F.A.C.: STATIONARY SOURCES - PRECONSTRUCTION REVIEW, effective 03-28-12

CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION, effective 02-16-12

62-213.205, F.A.C.: Annual Emissions Fee.
62-213.400, F.A.C.: Permits and Permit Revisions Required.
62-213.410, F.A.C.: Changes Without Permit Revision.
62-213.412, F.A.C.: Immediate Implementation Pending Revision Process.
62-213.415, F.A.C.: Trading of Emissions Within a Source.
62-213.420, F.A.C.: Permit Applications.
62-213.430, F.A.C.: Permit Issuance, Renewal, and Revision.
62-213.440, F.A.C.: Permit Content.
62-213.450, F.A.C.: Permit Review by EPA and Affected States
62-213.460, F.A.C.: Permit Shield.

62-213.900, F.A.C.: Forms and Instructions.
62-213.900(1), F.A.C.: Major Air Pollution Source Annual Emissions Fee Form.
62-213.900(7), F.A.C.: Statement of Compliance Form.

CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS, effective 02-16-12

62-296.320(4)(c), F.A.C.: Unconfined Emissions of Particulate Matter.

62-296.320(2), F.A.C.: Objectionable Odor Prohibited.

CHAPTER 62-297, F.A.C.: STATIONARY SOURCES - EMISSIONS MONITORING, effective 02-16-12

62-297.310, F.A.C.: General Test Requirements.
62-297.310(4), F.A.C.: Applicable Test Procedures.
62-297.310(7), F.A.C.: Frequency of Compliance Tests.
62-297.310(6), F.A.C.: Repaired Stack Sampling Facilities.
62-297.310(5), F.A.C.: Determination of Process Variables.
62-297.510(8), F.A.C.: Test Report.
62-297.620, F.A.C.: Exceptions and Approval of Alternate Procedures and Requirements.

Miscellaneous:

CHAPTER 28-106, F.A.C.: Decisions Determining Substantial Interests
CHAPTER 62-110, F.A.C.: Exception to the Uniform Rules of Procedure, effective 07-01-98
CHAPTER 62-256, F.A.C.: Open Burning and Frost Protection Fires, effective 10-06-08
CHAPTER 62-257, F.A.C.: Asbestos Notification and Fee, effective 10-12-08
CHAPTER 62-281, F.A.C.: Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling, effective 09-10-96

ATTACHMENT VB-FI-CV3

COMPLIANCE REPORT AND PLAN

City of Vero Beach

100 – 17th Street – P.O. Box 1389
VERO BEACH, FLORIDA 32961-1389
Telephone: (772) 978-5050
Fax: (772) 978-5090

MUNICIPAL POWER PLANT

May 16, 2012

Ms. Rosalyn Huges
U.S. Environmental Protection Agency
Air Enforcement Section
61 Forsyth Street
Atlanta, GA., 30303-8960

Subject: City of Vero Beach Title V Permit No. 0610029-008-AV, Annual Statement of Compliance Certifications

Dear Ms. Hughes:

Please find the attached signed certified annual statement of compliance document for the City of Vero Beach Municipal Utilities for the reporting year 2011. Copies were also sent to the Florida Department of Environmental Protection Central District Office in Orlando, Florida. We regret that the Statement is being delivered after the deadline of March 1.

If you have any questions or require additional information, please contact Jack Keltner, Power Resources Manager of Support Services, at (772) 978-5050.

Sincerely,

Randall McCamish
Acting Director of Power Resources

Mail Certified (FDEP) 7003 1010 0001 5430 5266
(EPA Region 4) 7003 1010 0001 5430 5273

cc: Jack Keltner
File

Department of Environmental Protection

Division of Air Resource Management

STATEMENT OF COMPLIANCE - TITLE V SOURCE

REASON FOR SUBMISSION (Check one to indicate why this statement of compliance is being submitted)

X **Annual Requirement**	**Transfer of Permit**	**Permanent Facility Shutdown**

REPORTING PERIOD*	REPORT DEADLINE**
January through **December** of **2011** (year)	**March 1, 2012**

*The statement of compliance must cover all conditions that were in effect during the indicated reporting period, including any conditions that were added, deleted, or changed through permit revision.

**See Rule 62-213.440(3)(a)2., F.A.C.

Facility Owner/Company Name: **City of Vero Beach**

Site Name: **City of Vero Beach Municipal Utilities** Facility ID No. **0610029** County: **Indian River**

COMPLIANCE STATEMENT (Check only one of the following three options)

____ **A.** This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, and there were no reportable incidents of deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above.

__X__ **B.** This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part; however, there were one or more reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each incident of deviation, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

____ **C.** This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, EXCEPT those identified in the pages attached to this report and any reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each item of noncompliance, the following information is included:

1. Emissions unit identification number.
2. Specific permit condition number (note whether the permit condition has been added, deleted, or changed during certification period).
3. Description of the requirement of the permit condition.
4. Basis for the determination of noncompliance (for monitored parameters, indicate whether monitoring was continuous, i.e., recorded at least every 15 minutes, or intermittent).
5. Beginning and ending dates of periods of noncompliance.
6. Identification of the probable cause of noncompliance and description of corrective action or preventative measures implemented.
7. Dates of any reports previously submitted identifying this incident of noncompliance.

For each incident of deviation, as described in paragraph **B.** above, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

STATEMENT OF COMPLIANCE - TITLE V SOURCE

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am a responsible official (Title V air permit application or responsible official notification form on file with the Department) of the Title V source for which this document is being submitted. With respect to all matters other than Acid Rain program requirements, I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

(Signature of Title V Source Responsible Official) 5/14/12 *(Date)*

Name: **Mr. Randall McCamish** Title: **Acting Director of Power Resources**

DESIGNATED REPRESENTATIVE CERTIFICATION (only applicable to Acid Rain source)

I, the undersigned, am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

(Signature of Acid Rain Source Designated Representative) 5/14/12 *(Date)*

Name: **Mr. Randall McCamish** Title: **Acting Director of Power Resources**

{Note: Attachments, if required, are created by a responsible official or designated representative, as appropriate, and should consist of the information specified and any supporting records. Additional information may also be attached by a responsible official or designated representative when elaboration is required for clarity. This report is to be submitted to both the compliance authority (DEP district or local air program) and the U.S. Environmental Protection Agency(EPA) (U.S. EPA Region 4, Air and EPCRA Enforcement Branch, 61 Forsyth Street, Atlanta GA 30303).}

ATTACHMENT VB-FI-CV4

LIST OF EQUIPMENT/ACTIVITIES REGULATED UNDER TITLE VI

ATTACHMENT VB-FI-CV4
LIST OF EQUIPMENT/ACTIVITIES REGULATED UNDER TITLE VI

The City of Vero Beach Municipal Utilities currently has approximately 25 refrigeration and air-conditioning units on the plant site. Of these, no air-conditioning units currently meet the 50-pound threshold established by the Department.

ATTACHMENT VB-FI-CV6

REQUESTED CHANGES TO CURRENT TITLE V AIR OPERATION PERMIT

ATTACHMENT VB-FI-CV6
REQUESTED ADMINISTRATIVE CHANGES

40 CFR 63 Subpart ZZZZ Applicability

On behalf of the City of Vero Beach, Golder Associates (Golder) has prepared an inventory of stationary Reciprocating Internal Combustion Engines (RICE) at the City of Vero Beach Municipal Utilities plant, which consists of an electric power generation plant and an adjacent wastewater treatment plant. The purpose of the inventory was to analyze applicability of Title 40, Part 63 of the Code of Federal Regulations (40 CFR 63), Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for stationary RICE to these engines. Following are the three stationary RICE at the facility:

- Startup diesel generator engine for Unit 5 (Detroit Diesel 12V71)
- 750 kW Emergency diesel generator engine for the wastewater treatment plant (Caterpillar 3412C TA V-12)
- Emergency diesel generator engine for wastewater treatment plant pump station (Detroit Diesel S60 14L Turbo)

The first two engines are currently listed in the Title V permit Appendix I-1. The attached Tables 1, 2, and 3 present detailed information on the engines including manufacturer, serial number, horsepower rating, and applicability of emissions, monitoring, reporting, and recordkeeping requirements associated with Subpart ZZZZ.

The startup diesel generator is used solely for the purpose of starting Unit 5 and the two diesel generators at the wastewater treatment plant are used for emergency purpose only. In accordance with the requirements of emergency stationary RICE contained in 40 CFR 63.6640(f), the emergency engines at the wastewater plant will not operate for more than 100 hr/yr for maintenance and readiness testing, of which 50 hr/yr can be for non-emergency use.

LE requests that the Subpart ZZZZ applicability requirements for these engines be included in the renewed Title V permit. LE also requests that once the startup diesel and the Caterpillar diesel generator are converted to regulated emissions units, they be removed from the renewed Title V permit.

TABLE 1
APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ
Startup Diesel Engine for Unit 5

	Permit Requirements	Citation
Engine Description	Startup diesel engine for Unit 5	
CI or SI	CI	
Located in an Area Source or Major Source of HAPS	Major Source	
Use (Emergency, Non-Emergency, Black-Start, Limited-Use)	Startup for Unit 5	
Engine Serial Number	71237300	
Engine Manufacturer	Detroit Diesel	
Engine Model	Series 12V71	
Engine Power (bhp)	684	
Compliance Date	May 3, 2013	Rule § 63.6595(a)
Emissions Limitations	Change oil and filter every 500 hrs of operation or annually, whichever first Inspect air cleaner every 1,000 hrs of operation or annually, whichever first Inspect and replace (if necessary) hoses and belts every 500 hrs of operation or annually, whichever first Minimize idle & startup time to <30 min	Rule § 63.6600(d), Table 2c (1a, 1b , 1c)
Operating Limitations	None	Rule § 63.6600(d), Table 2b
Fuel Requirements	None	Rule § 63.6604
Performance Tests	None	Rule § 63.6610
Monitoring, installation, collection, operation, and maintenance requirements	None	Rule § 63.6625
Initial Compliance	None	Rule § 63.6630
Continuous Compliance	None	Rule § 63.6640
Notification Requirements	None	Rule § 63.6645
Reporting Requirements	None	Rule § 63.6650
Recordkeeping Requirements	Copies of each notification and report to comply with the subpart Records of occurrence and duration of each malfunction of operation Records of maintenance conducted Records of operating hours	Rule § 63.6655

TABLE 2
APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ
Emergency Engine for Wastewater Treatment Plant

	Permit Requirements	Citation
Engine Description	Emergency Engine for Wastewater Treatment Plant	
CI or SI	CI	
Located in an Area Source or Major Source of HAPS	Major Source	
Use (Emergency, Non-Emergency, Black-Start, Limited-Use)	Emergency	
Engine Serial Number		
Engine Manufacturer	Caterpillar	
Engine Model	3412C TA V-12	
Engine Power (bhp)	1,109	
Compliance Date	May 3, 2013	Rule § 63.6595(a)
Emissions Limitations	Change oil and filter every 500 hrs of operation or annually, whichever first Inspect air cleaner every 1,000 hrs of operation or annually, whichever first Inspect and replace (if necessary) hoses and belts every 500 hrs of operation or annually, whichever first Minimize idle & startup time to <30 min	Rule § 63.6600(d), Table 2c (1a, 1b , 1c)
Operating Limitations	None	Rule § 63.6600(d), Table 2b
Fuel Requirements	None	Rule § 63.6604
Performance Tests	None	Rule § 63.6610
Monitoring, installation, collection, operation, and maintenance requirements	None	Rule § 63.6625
Initial Compliance	None	Rule § 63.6630
Continuous Compliance	Non-emergency use including maintenance checks and readiness testing limited to 100 hr/yr. Non-emergency use limited to 50 hr/yr.	Rule § 63.6640(f)
Notification Requirements	None	Rule § 63.6645
Reporting Requirements	None	Rule § 63.6650
Recordkeeping Requirements	Copies of each notification and report to comply with the subpart Records of occurrence and duration of each malfunction of operation Records of maintenance conducted Records of operating hours	Rule § 63.6655

TABLE 3
APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ
Emergency Generator for Wastewater Treatment Plant Pump Station

	Permit Requirements	Citation
Engine Description	Diesel-fired emergency engine for Wastewater Treatment Plant pump station	
CI or SI	CI	
Located in an Area Source or Major Source of HAPS	Major Source	
Use (Emergency, Non-Emergency, Black-Start, Limited-Use)	Emergency	
Engine Serial Number		
Engine Manufacturer	Detroit Diesel	
Engine Model	S60 14L Turbo	
Engine Power (bhp)	685	
Compliance Date	May 3, 2013	Rule § 63.6595(a)
Emissions Limitations	Change oil and filter every 500 hrs of operation or annually, whichever first Inspect air cleaner every 1,000 hrs of operation or annually, whichever first Inspect and replace (if necessary) hoses and belts every 500 hrs of operation or annually, whichever first Minimize idle & startup time to <30 min	Rule § 63.6600(d), Table 2c (1a, 1b , 1c)
Operating Limitations	None	Rule § 63.6600(d), Table 2b
Fuel Requirements	None	Rule § 63.6604
Performance Tests	None	Rule § 63.6610
Monitoring, installation, collection, operation, and maintenance requirements	None	Rule § 63.6625
Initial Compliance	None	Rule § 63.6630
Continuous Compliance	Non-emergency use including maintenance checks and readiness testing limited to 100 hr/yr. Non-emergency use limited to 50 hr/yr.	Rule § 63.6640(f)
Notification Requirements	None	Rule § 63.6645
Reporting Requirements	None	Rule § 63.6650
Recordkeeping Requirements	Copies of each notification and report to comply with the subpart Records of occurrence and duration of each malfunction of operation Records of maintenance conducted Records of operating hours	Rule § 63.6655

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Fossil Fuel Steam Generator Unit 1

3. Emissions Unit Identification Number: **001**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A		**Oct 1, 1961**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: **13** MW

11. Emissions Unit Comment:
    Emission unit is a fossil fuel-fired steam generator capable of firing natural gas or any combination of natural gas and Nos. 2, 4, and 6 fuel oil.

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

B. EMISSIONS UNIT CAPACITY INFORMATION
(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **202** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum Heat Input Rate based on natural gas firing only.** **Maximum Heat Input Rate for fuel oil firing is 140MMBtu/hr.**	

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EU-1**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Stack shared with fossil fuel steam generator Unit 2 (EU ID 002)**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **002**		
5. Discharge Type Code: **V**	6. Stack Height: **200** feet	7. Exit Diameter: **3.5** feet
8. Exit Temperature: **289**°F	9. Actual Volumetric Flow Rate: **60,883** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **561.4** North (km): **3,056.5**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **27/37/52** Longitude (DD/MM/SS) **80/22/33**	
15. Emission Point Comment: **Stack parameters based on Title V renewal application dated June 2007.** **Stack temperature and flow rate are based on natural gas firing. For oil firing, temperature and flow rate are 327 F and 61,407 acfm, respectively. Flow rate is for Unit 1 only.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Natural-Gas Boilers >100 MMBtu/hr**		
2. Source Classification Code (SCC): **1-01-006-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **0.196**	5. Maximum Annual Rate: **1,718**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,030**
10. Segment Comment: **Maximum Hourly Rate based on heat input of 202 MMBtu/hr and 8,760 hours of operation.** **Maximum hourly rate = 202 MMBtu/hr /1030 MMBtu/MM ft3 = 0.196 MM ft3/hr** **Maximum annual rate = 0.196 MM ft3/hr x 8,760 hr/yr = 1,718 MM ft3/yr.**		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Residual Oil No. 6 - Normal Firing**		
2. Source Classification Code (SCC): **1-01-004-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **0.933**	5. Maximum Annual Rate: **8,176**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Based on high heating value (HHV) of No. 6 fuel oil.** **Maximum hourly rate based on heat input of 140 MMBtu/hr and 8,760 hours of operation.** **Maximum hourly rate = 140 MMBtu/hr /150 MMBtu/1,000 gallons = 933.3 gallons/hr.** **Maximum annual rate = 933.3 gallons/hr x 8,760 hr/yr = 8,175.7x10^3 gallons/yr.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grades 1 and 2 Oil**		
2. Source Classification Code (SCC): **1-01-005-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **1.011**	5. Maximum Annual Rate: **8,855**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **138.5**
10. Segment Comment: **Based on high heating value (HHV) of Nos. 1 or 2 fuel oil. Maximum hourly rate based on 140 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 140 MMBtu/hr /138.5 MMBtu/1,000 gallons = 1,011 gallons/hr. Maximum annual rate = 933.3 gallons/hr x 8,760 hr/yr = 8,855x10^3 gallons/yr.**		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grade 4 Oil:Normal Firing**		
2. Source Classification Code (SCC): **1-01-005-04**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **0.972**	5. Maximum Annual Rate: **8,517**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **144**
10. Segment Comment: **Based on high heating value (HHV) of No. 4 fuel oil. Maximum hourly rate based on 140 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 140 MMBtu/hr /144 MMBtu/1,000 gallons = 972 gallons/hr. Maximum annual rate = 972 gallons/hr x 8,760 hr/yr = 8,517x10^3 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
SO2			EL
PM10			NS
CO			NS
VOC			NS
NOx			NS
H106			NS
HAPS			NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **15.9** lb/hour **69.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **Natural gas or 1.5% sulfur oil** Reference: **Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU1-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on No. 6 fuel oil firing.** **Sulfur content of fuel oil limited to 1.5 percent by weight.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.5% sulfur oil**	4. Equivalent Allowable Emissions: **15.9** lb/hour **69.5** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on No. 6 oil firing. (VB-EU1-F1.10.) Allowable emissions based on BACT determination dated 2/14/91 [Rule 62-296.406(2), F.A.C.].**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **Natural gas firing**	4. Equivalent Allowable Emissions: **1.5** lb/hour **6.5** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on natural gas firing. (VB-EU1-F1.10.) Allowable emissions based on BACT determination dated 2/14/91 [Rule 62-296.406(2), F.A.C.].**	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **230.2** lb/hour **1,008** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **1.5% Sulfur oil** Reference: **Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU1-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on No. 6 fuel oil firing.** **Sulfur content of fuel oil limited to 1.5 percent by weight.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.5% sulfur oil**	4. Equivalent Allowable Emissions: **230.2** lb/hour **1,008** tons/year
5. Method of Compliance: **Fuel Oil Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on No. 6 fuel oil firing. (VB-EU1-F1.10.) Allowable emissions based on BACT determination dated 2/14/91 [Rule 62-296.406(3), F.A.C.].**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **3**

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-296.406(1), F.A.C and Permit No. 0610029-007-AV. Annual VE test required only if 400 or more hrs/yr of oil or oil/natural gas combination operatiion.**	

Visible Emissions Limitation: Visible Emissions Limitation **2** of **3**

1. Visible Emissions Subtype: **VE60**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **60** % Exceptional Conditions: **>60** % Maximum Period of Excess Opacity Allowed: **4 periods of 6** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-210.700(3), F.A.C. and Permit No. 0610029-007-AV.** **60 percent opacity during load changing and boiler cleaning (soot blowing) for 3 hours in any 24-hour period.** **Annual VE test required only if 400 or more hrs/yr of oil or oil/natural gas combination operation.**	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **3** of **3**

1. Visible Emissions Subtype: **VE99**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Excess emissions for startup, shutdown or malfunction. Excess emissions for malfunction limited to 2hr/24hrs.Permit No. 0610029-007-AV. Rule 62-296.700(1) and (2), F.A.C**	

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU1-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU1-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU1-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ Attached, Document ID: _____ ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: _____ ☐ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☒ Attached, Document ID: **VB-EU1-IV1**
2.	Compliance Assurance Monitoring: ☐ Attached, Document ID: _____ ☒ Not Applicable
3.	Alternative Methods of Operation: ☒ Attached, Document ID: **VB-EU1-IV3** ☐ Not Applicable
4.	Alternative Modes of Operation (Emissions Trading): ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT VB-EU1-F1.10

EMISSIONS CALCULATIONS

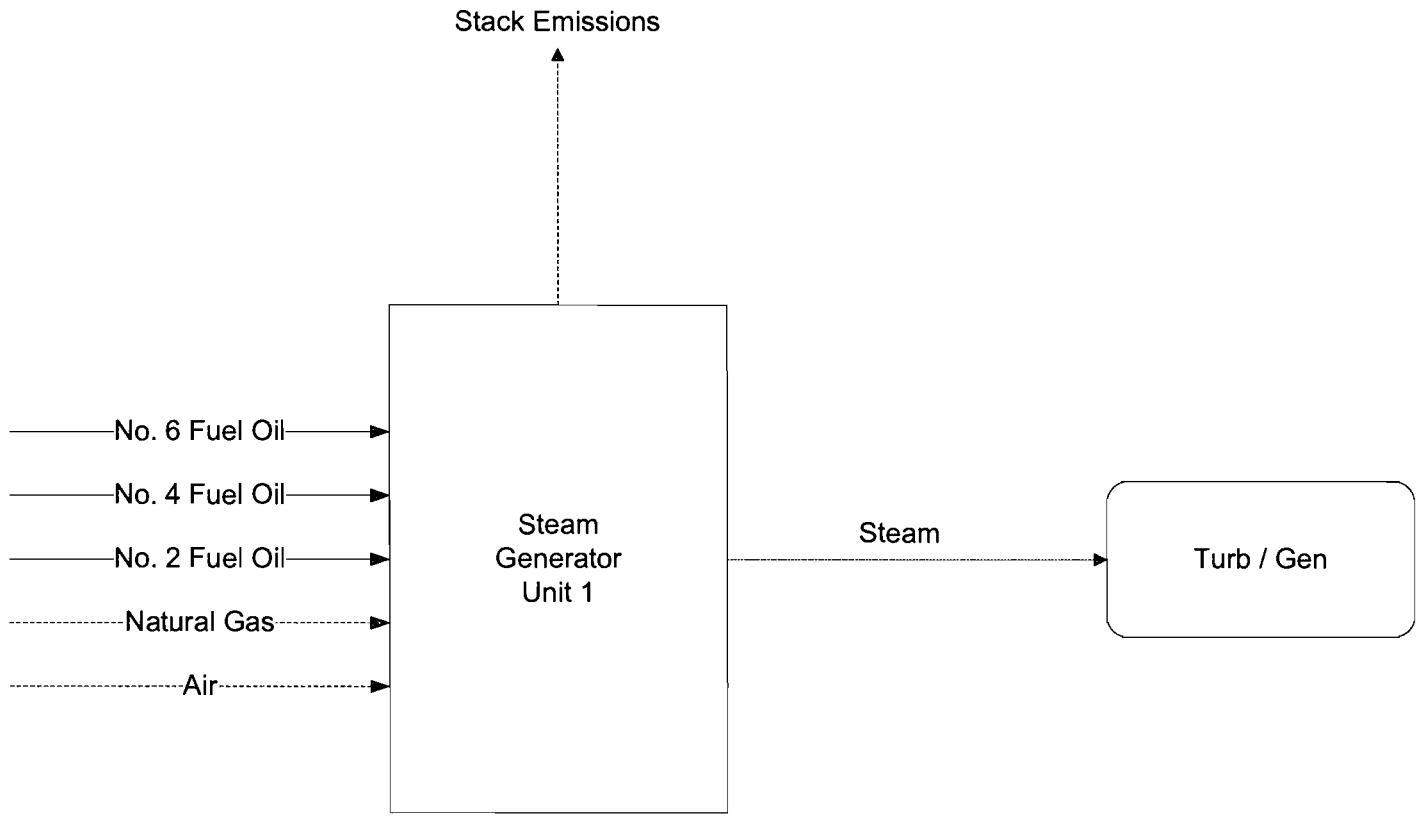
ATTACHMENT VB-EU1-F1.10

MAXIMUM POTENTIAL EMISSIONS FOR EMISSIONS-LIMITED POLLUTANTS
FOSSIL FUEL STEAM GENERATOR UNIT 1
VERO BEACH MUNICIPAL UTILITIES POWER PLANT

Pollutant	Unit 1	
	Oil Firing	Natural Gas Firing
Hours of Operation	8,760	8,760
SO_2		
Sulfur Dioxide (lb/hr) (Oil)= Fuel Sulfur Content (%)/100 x (MW_{SO2}/MW_S) x Fuel Consumption (lb/hr)		
Sulfur Dioxide (lb/hr) (Gas)= Fuel Sulfur Content (gr/100 ft^3)/100 x (MW_{SO2}/MW_S) x (1 lb/7,000 gr) x Fuel Consumption (ft^3/hr)		
Basis	BACT	AP-42
Sulfur Content, S (% or gr/100 ft^3)	1.5	1.0
MW SO_2	64	64
MW S	32	32
Fuel density (lb/gal)	8.22	--
Fuel Consumption (gal/hr or million ft^3/hr)	933.3	0.196
Emission Rate (lb/hr)	230.2	0.6
Emission Rate (TPY)	1,008.1	2.5
PM		
Particulate Matter (lb/hr) (Oil)= AP-42 Factor (lb/10^3 gal) x Fuel Use (10^3 gal/hr)		
Particulate Matter (lb/hr) (Gas)= AP-42 Factor (lb/10^6 ft^3) x Fuel Use (10^6 ft^3/hr)		
Basis	BACT (SO_2)/AP-42	AP-42
Sulfur Content, S (%)	1.5	--
AP-42 Factor: (lb/10^3 gal or lb/million ft^3)	9.19 x S(%)+3.22	7.6
Fuel Consumption (1,000 gal/hr or million ft^3/hr)	0.933	0.196
Emission Rate (lb/hr)	15.9	1.5
Emission Rate (TPY)	69.5	6.5

ATTACHMENT VB-EU1-I1

PROCESS FLOW DIAGRAM



Attachment VB-EU1-I1
Steam Generator Unit 1 Process Flow Diagram
City of Vero Beach Municipal Power Plant - Vero Beach, Florida

Process Flow Legend
Solid/Liquid
Gas
Steam

Golder Associates

Y:\Projects\2011\113-87747 CoVB TVRen\Final\Att\VB all flow diagrams.vsd

ATTACHMENT VB-EU1-I2

FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT VB-EU1-I2
FUEL ANALYSIS OR SPECIFICATION

Fuel	Density (lb/gal) [a]	Moisture (%)	Maximum % Weight Content			Heat Capacity
			Sulfur	Nitrogen	Ash	
Natural Gas	0.045 [b]	—	1 [c]	0.43 [d]	—	23,100 Btu/lb 1,030 Btu/ft^3
No. 2 Fuel Oil	7.1	0.01	0.25	0.02	<0.01	19,500 Btu/lb 138,500 Btu/gal
No. 4 Fuel Oil	7.6	0.05	0.7	0.18	<0.01	19,000 Btu/lb 144,000 Btu/gal
No. 6 Fuel Oil	8.15	0.20	1.5	0.32	0.05	18,400 Btu/lb 150,000 Btu/gal

[a] At 60 degrees Fahrenheit.
[b] Represented as lb/ft^3. Based on heat capacities presented.
[c] Represented as grains/100 ft^3.
[d] Atmospheric nitrogen.

ATTACHMENT VB-EU1-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT VB-EU1-I4
PROCEDURES FOR STARTUP AND SHUTDOWN

Startup of the fossil-fuel boilers begins when fuel (either natural gas or oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased and continues until the final burner gun is removed from service and the final induced-draft or forced-draft fan is removed from service.

Countermeasures, which may be taken in the event of excess emissions include, but are not limited to:

- Proper excess air adjustments
- Recognizing and removal of faulty burners
- Fuel oil temperature adjustments
- Proper and timely operation of boiler cleaning devices
- Removal of the unit from system-dispatch mode
- Reduction of unit megawatt load
- Stopping and restarting of boiler cleaning devices
- Lowering load rate
- Pressure rate changes

Knowledge of the appropriate countermeasures to take under an excess emissions condition is a part of the routine operator training for the engineers who operate the boilers. In addition, plant operations and supervisory staff are periodically given training. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, etc.

ATTACHMENT VB-EU1-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

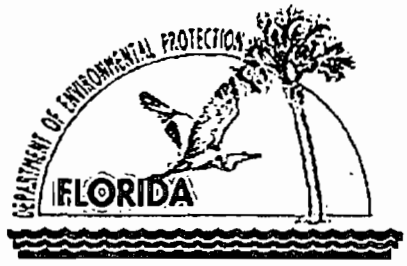
ATTACHMENT VB-EU1-IV1

SUPPLEMENTAL REQUIREMENTS COMMENT
FOSSIL FUEL STEAM GENERATOR UNIT 1

Unit 1 is subject to emission limits for PM and SO_2, but does not have any control device to achieve compliance with these emission limits. Therefore, 40 CFR 64 is not applicable to this unit and a Compliance Assurance Monitoring (CAM) Plan is not required.

City of Vero Beach
City of Vero Beach Municipal Utilities
Facility ID No.: 0610029
Indian River County

Title V Air Operation Permit Renewal
FINAL Permit No.: 0610029-007-AV



Permitting Authority:
State of Florida
Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0144
Fax: 850/921-9533

Compliance Authority:
Department of Environmental Protection
Central District Office
Air Section
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767
Phone: 407/894-7555
Fax: 407/897-2966

Table of Contents

Florida Department of Environmental Protection

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

Permittee:
City of Vero Beach
PO Box 1389
Vero Beach, FL 32961-1389

FINAL Permit No.: 0610029-007-AV
Facility ID No.: 0610029
SIC Nos.: 49,4931
Project: Title V Air Operation Permit Renewal

This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:
Appendix U-1, List of Unregulated Emissions Units and/or Activities
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix TV-6, Title V Conditions (version dated 06/23/06)
Appendix SS-1, Stack Sampling Facilities (version dated 10/07/96)
Table 297.310-1, Calibration Schedule (version dated 10/07/96)
Figure 1 - Summary Report-Gaseous And Opacity Excess Emission And Monitoring System Performance Report (version dated 7/96)
Phase II Acid Rain Application/Compliance Plan received September 3, 2002
Alternate Sampling Procedure: ASP Number 97-B-01
BACT Determination dated June 28, 1991
Appendix CAM, Continuous Assurance Monitoring
Appendix GG, New Source Performance Standards, Subpart GG, Stationary Gas Turbines

Effective Date: January 1, 2008
Renewal Application Due Date: July 5, 2012
Expiration Date: December 31, 2012

Joseph Kahn, Director
Division of Air Resource Management

JK/tlv/aal/tmh

Section I. Facility Information.

Subsection A. Facility Description.

This facility is an electric power generating plant located adjacent to a wastewater treatment facility and consists of:

Fossil Fuel Steam Generating Unit 1 (Emissions Unit 001), rated at 13 MW;

Fossil Fuel Steam Generating Unit 2 (Emissions Unit 002), rated at 17 MW;

Fossil Fuel Steam Generating Unit 3 (Emissions Unit 003), rated at 34 MW;

Fossil Fuel Steam Generating Unit 4 (Emissions Unit 004), rated at 56 MW;

Combined Cycle Gas Turbine Unit 5 (Emissions Unit 005), rated at 38 MW.

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

Based on the Title V permit application received June 28, 2007, this facility is a major source of hazardous air pollutants (HAPs).

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

E.U. ID No.	Brief Description
001	Fossil Fuel Steam Generator, Unit 1, rated at 13 MW, 202 mmBtu/hr for natural gas and 140 mmBtu/hr for fuel oil, capable of burning any combination of natural gas and numbers 2, 4 and 6 fuel oil, with emissions exhausted through a 200 ft. stack shared with Emissions Unit 002.
002	Fossil Fuel Steam Generator, Unit 2, rated at 17 MW, 248 mmBtu/hr for natural gas and 243 mmBtu/hr for fuel oil, capable of burning any combination of natural gas, numbers 2, 4 and 6 fuel oil, and propane as an ignitor fuel, with emissions exhausted through a 200 ft. stack shared with Emissions Unit 001.
003	Fossil Fuel Steam Generator, Unit 3, rated at 34 MW, 417 mmBtu/hr for natural gas and 410 mmBtu/hr for fuel oil, capable of burning any combination of natural gas, numbers 2, 4 and 6 fuel oil, and propane as an ignitor fuel, with emissions exhausted through a 200 ft. stack.
004	Fossil Fuel Steam Generator, Unit 4, rated at 56 MW, 685 mmBtu/hr, capable of burning any combination of natural gas, numbers 2, 4 and 6 fuel oil, and propane as an ignitor fuel, with emissions exhausted through a 200 ft. stack.
005	Combined Cycle Gas Turbine, Unit 5, rated at 38 MW, 455 mmBtu/hr for number 2 fuel oil and 414 mmBtu/hr for natural gas, capable of burning any combination of, number 2 fuel oil, and natural gas, with emissions exhausted through a 125 ft. stack.

Unregulated Emissions Units and/or Activities, See Appendix U-1	
006	Fuel oil, gasoline and lube oil storage tanks.
007	Waste water treatment plant.

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

Subsection C. Relevant Documents.

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

These documents are provided to the permittee for information purposes only:
Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers
Appendix H-1, Permit History/ID Number Changes
Table 1-1, Summary of Air Pollutant Standards and Terms
Table 2-1, Summary of Compliance Requirements
Statement of Basis

These documents are on file with the permitting authority and the USEPA:

Title V Permit Renewal Application received July 1, 2002
Additional Information Request dated August 14, 2002
Additional Information Response received September 3, 2002
The Responsible Official has certified that the Risk Management Plan was submitted to the RMP Reporting Center (on USEPA files)

Subsection D. Miscellaneous.

The use of "Permitting Notes" throughout this permit are for informational purposes only and are not permit conditions.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS, is a part of this permit.
{*Permitting Notes*: APPENDIX TV-6, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}

2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rule 62-296.320(4)(b)1. & 4, F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of the Clean Air Act.
a. As required by Section 112(r)(7)(B)(iii) of the CAA and 40 CFR 68, the owner or operator shall submit an updated Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center.
b. As required under Section 252.941(1)(c), F.S., the owner or operator shall report to the appropriate representative of the Department of Community Affairs (DCA), as established by department rule, within one working day of discovery of an accidental release of a regulated substance from the stationary source, if the owner or operator is required to report the release to the United States Environmental Protection Agency under Section 112(r)(6) of the CAA.
c. The owner or operator shall submit the required annual registration fee to the DCA on or before April 1, in accordance with Part IV, Chapter 252, F.S., and Rule 9G-21, F.A.C.

Any required written reports, notifications, certifications, and data required to be sent to the DCA, should be sent to:

Department of Community Affairs
Division of Emergency Management
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
Telephone: 850/413-9921, Fax: 850/488-1739

Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 1515
Lanham-Seabrook, Maryland 20703-1515
Telephone: 301/429-5018

Any required reports to be sent to the National Response Center, should be sent to:

National Response Center
EPA Office of Solid Waste and Emergency Response
USEPA (5305 W)
401 M Street, SW
Washington, D.C. 20460
Telephone: 1/800/424-8802

Send the required annual registration fee using approved forms made payable to:

Cashier
Department of Community Affairs
State Emergency Response Commission
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2149

[Part IV, Chapter 252, F.S.; and, Rule 9G-21, F.A.C.]

5. Unregulated Emissions Units and/or Activities. Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.
[Rule 62-213.440(1), F.A.C.]

6. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]

7. Reserved.

8. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

a. Tightly cover or close all VOC or OS containers when they are not in use.
b. Tightly cover all open tanks which contain VOC or OS when they are not in use.
c. Maintain all pipes, valves, fittings, etc., which handle VOC or OS in good operating condition.
d. Immediately confine and clean up VOC or OS spills and make sure wastes are placed in closed containers for reuse, recycling or proper disposal.

[Rule 62-296.320(1)(a), F.A.C.]

9. Reasonable Precautions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility may include:

a. Maintenance of paved areas as needed.
b. Regular mowing of grass and care of vegetation.
c. Limiting access to plant property by unnecessary vehicles.
d. Care in handling and use of bagged chemical products.

[Rule 62-296.320(4)(c)2., F.A.C.; Items a, b, c, and d proposed by applicant in the renewal Title V permit application received June 28, 2007]
{Permitting note: This condition implements the requirements of Rules 62-296.320(4)(c)1., 3., & 4., F.A.C. (see Condition No. 57. of APPENDIX TV-6, TITLE V CONDITIONS).}

10. Timely Recording, Monitoring and Reporting: When appropriate, any recording, monitoring or reporting requirements that are time-specific shall be in accordance with the effective date of this permit, which defines day one.
[Rule 62-213.440, F.A.C.]

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

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

12. State Compliance Authority: The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Central District office:

Department of Environmental Protection, Central District Office
Air Section
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767
Phone: 407/894-7555
Fax: 407/897-2966

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

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch, Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303
Telephone: 404/562-9155, Fax: 404/562-9164

14. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.
[Rule 62-213.420(4), F.A.C.]

Section III. Emissions Units and Conditions.

Subsection A. This section addresses the following emissions unit.

E.U. ID No.	Brief Description
001	Fossil Fuel Steam Generator, Unit 1, rated at 13 MW, 202 mmBtu/hr for natural gas and 140 mmBtu/hr for fuel oil, capable of burning any combination of natural gas and numbers 2, 4 and 6 fuel oil, with emissions exhausted through a 200 ft. stack shared with Emissions Unit 002.

{Permitting Notes: The emissions unit is regulated under Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with Less than 250 million Btu per Hour Heat Input. Fossil fuel fired steam generator Unit 1 began commercial operation in 1961.}

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

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum operation heat input rate is as follows:

Unit No.	mmBtu/hr Heat Input	Fuel Type
001	202	Natural Gas
	140	Fuel Oil

[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.406, F.A.C.]

A.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **F.14.**
[Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operation. Fuels. The only fuels allowed to be burned are any combination of natural gas and numbers 2, 4 and 6 fuel oil.
[Rule 62-213.410, F.A.C.]

Emission Limitations and Standards

{Permitting note: Unless otherwise specified, the averaging time for conditions **A.4.** and **A.5.** are based on the specified averaging time of the applicable test method.}

A.4. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one two-minute period per hour during which opacity shall not exceed 40 percent.
[Rule 62-296.406(1), F.A.C.]

A.5. Visible emissions - Soot Blowing and Load Change. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210.700(3), F.A.C.]

A.6. Particulate Matter. Particulate matter emissions shall be controlled by the firing of natural gas and/or fuel oil with a sulfur content as limited by specific condition **A.7** of this permit.
[Rule 62-296.406(2), F.A.C., BACT Determination 2/14/91]

A.7. Sulfur Dioxide - Sulfur Content. The fuel oil sulfur content shall not exceed 1.5 percent, by weight.
[Rule 62-296.406(3), F.A.C., BACT Determination 2/14/91]

Test Methods and Procedures

A.8. Sulfur Dioxide - Sulfur Content. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by the vendor providing a fuel analysis upon each fuel delivery.
[Rules 62-213.440 and 62-296.406(3), F.A.C.]

A.9. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using one of ASTM D2622-94, ASTM D4294-90(95), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 or latest editions.
[Rules 62-213.440, 62-296.406(3) and 62-297.440, F.A.C.]

Monitoring of Operations

A.10. Annual Tests Required - VE. Except as provided in specific conditions **F.6** through **F.8** of this permit, emission testing for visible emissions shall be performed annually, no later than August 1st of each year, except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service. Testing shall be conducted while burning number 6 fuel oil.
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

Common Conditions

A.11. This emissions unit is also subject to conditions **F.1** through **F.18** contained in **Subsection F. Common Conditions.**

Subsection B. This section addresses the following emissions unit.

E.U. ID No.	Brief Description
002	Fossil Fuel Steam Generator, Unit 2, rated at 17 MW, 248 mmBtu/hr for natural gas and 243 mmBtu/hr for fuel oil, capable of burning any combination of natural gas, numbers 2, 4 and 6 fuel oil, and propane as an ignitor fuel, with emissions exhausted through a 200 ft. stack shared with Emissions Unit 001.

{Permitting Notes: The emissions unit is regulated under Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with Less than 250 million Btu per Hour Heat Input. Fossil fuel fired steam generator Unit 2 began commercial operation in 1964.}

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

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. The maximum operation heat input rate is as follows:

Unit No.	mmBtu/hr Heat Input	Fuel Type
002	248	Natural Gas
	243	Fuel Oil

[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.406, F.A.C.]

B.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **F.14.**
[Rule 62-297.310(2), F.A.C.]

B.3. Methods of Operation. Fuels. The only fuels allowed to be burned are any combination of natural gas and numbers 2, 4 and 6 fuel oil. Propane may be used as an ignitor fuel.
[Rule 62-213.410, F.A.C.]

Emission Limitations and Standards

{Permitting note: Unless otherwise specified, the averaging time for conditions **B.4.** - **B.5.** are based on the specified averaging time of the applicable test method.}

B.4. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one two-minute period per hour during which opacity shall not exceed 40 percent.
[Rule 62-296.406(1), F.A.C.]

B.5. Visible emissions - Soot Blowing and Load Change. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210.700(3), F.A.C.]

B.6. Particulate Matter. Particulate matter emissions shall be controlled by the firing of natural gas and/or fuel oil with a sulfur content as limited by specific condition **B.7** of this permit.
[Rules 62-4.070(3) and 62-296.406(2), F.A.C., BACT for this source will be the same as that of the BACT Determination of 2/14/91 for EU 001]

B.7. Sulfur Dioxide - Sulfur Content. The fuel oil sulfur content shall not exceed 1.5 percent, by weight.
[Rules 62-4.070(3) and 62-296.406(3), F.A.C., BACT for this source will be the same as that of the BACT Determination of 2/14/91 for EU 001]

Test Methods and Procedures

B.8. Sulfur Dioxide - Sulfur Content. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by the vendor providing a fuel analysis upon each fuel delivery.
[Rules 62-213.440 and 62-296.406(3), F.A.C.]

B.9. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using one of ASTM D2622-94, ASTM D4294-90(95), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 or latest editions.
[Rules 62-213.440, 62-296.406(3) and 62-297.440, F.A.C.]

Monitoring of Operations

B.10. Annual Tests Required - VE. Except as provided in specific conditions **F.6** through **F.8** of this permit, emission testing for visible emissions shall be performed annually, no later than August 1st of each year, except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service. Testing shall be conducted while burning number 6 fuel oil.
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

Common Conditions

B.11. This emissions unit is also subject to conditions **F.1** through **F.18** contained in **Subsection F. Common Conditions.**

Subsection C. This section addresses the following emissions unit.

003	Fossil Fuel Steam Generator, Unit 3, rated at 34 MW, 417 mmBtu/hr for natural gas and 410 mmBtu/hr for fuel oil, capable of burning any combination of natural gas, numbers 2, 4 and 6 fuel oil, and propane as an ignitor fuel, with emissions exhausted through a 200 ft. stack.

{Permitting Notes: The emissions unit is regulated under Acid Rain, Phase II and Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 million Btu per Hour Heat Input. Fossil fuel fired steam generator Unit 3 began commercial operation in 1971.}

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

C.1. Permitted Capacity. The maximum operation heat input rates are as follows:

Unit No.	mmBtu/hr Heat Input	Fuel Type
003	417	Natural Gas
	410	Fuel Oil

[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.405, F.A.C.]

C.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **F.14.**
[Rule 62-297.310(2), F.A.C.]

C.3. Methods of Operation. Fuels. The only fuels allowed to be burned are any combination of natural gas and numbers 2, 4 and 6 fuel oil. Propane may be used as an ignitor fuel.
[Rule 62-213.410, F.A.C.]

Emission Limitations and Standards

{Permitting note: Unless otherwise specified, the averaging time for conditions **C.4.** - **C.5.** are based on the specified averaging time of the applicable test method.}

C.4. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one two-minute period per hour during which opacity shall not exceed 40 percent. Emissions units governed by this visible emissions limit shall compliance test for particulate matter emissions annually and as otherwise required by Chapter 62-297, F.A.C.
[Rule 62-296.405(1)(a), F.A.C.]

C.5. Visible Emissions - Soot Blowing and Load Change. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.

Visible emissions above 60 percent opacity shall be allowed for not more than 4, six (6)-minute periods, during the 3-hour period of excess emissions allowed by this condition.
[Rule 62-210.700(3), F.A.C., Note: Unit 3 has an operational continuous opacity monitor.]

C.6. Particulate Matter. Particulate matter emissions shall not exceed 0.1 pound per million Btu heat input , as measured by applicable compliance methods.
[Rule 62-296.405(1)(b), F.A.C.]

C.7. Particulate Matter - Soot Blowing and Load Change. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.
[Rule 62-210.700(3), F.A.C.]

C.8. Sulfur Dioxide. When burning liquid fuel, sulfur dioxide emissions shall not exceed 2.75 pounds per million Btu heat input, as measured and determined in accordance with the fuel sampling and analysis requirements of 40 CFR 75, Appendix D. Any calculations used to demonstrate compliance shall be based solely on the Btu value and the percent sulfur of the liquid fuel being burned.
[Rules 62-213.440 and 62-296.405(1)(c)1.j., F.A.C.]

Test Methods and Procedures

C.9. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.
[Rules 62-213.440, 62-296.405(1)(e)2., and 62-297.401, F.A.C.]

C.10. Sulfur Dioxide. **The permittee elected to demonstrate compliance with the sulfur dioxide limitation using fuel sampling and analysis in accordance with the fuel sampling and analysis requirements of 40 CFR 75, Appendix D.** This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See specific conditions **C.11** and **C.12**.
[Rule 62-296.405(1)(f)1.b., F.A.C.]

C.11. Sulfur Dioxide. The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedences of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. **The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure**

authorized by permit, the permittee elected to demonstrate compliance using fuel sampling and analysis. See specific condition **C.12.**
[Rules 62-213.440, 62-296.405(1)(e)3. and 62-297.401, F.A.C.]

C.12. Compliance with the sulfur dioxide emission limitation shall be determined using fuel sampling and analysis in accordance with the fuel sampling and analysis requirements of 40 CFR 75, Appendix D.
[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C.]

Monitoring of Operations

C.13. Annual Tests Required - PM and VE. Except as provided in specific conditions **F.6** through **F.8** of this permit, emission testing for particulate matter emissions and visible emissions shall be performed annually, no later than August 1st of each year, except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service. Testing shall be conducted while burning number 6 fuel oil.
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

Record Keeping and Reporting Requirements

C.14. Excess Emissions for Sulfur Dioxide - Report. The owner or operator shall submit to the Central District Air Section a written report of emissions in excess of emission limiting standards for sulfur dioxide as set forth in this permit, for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations.
[Rules 62-213.440 and 62-296.405(1)(g), F.A.C., and 0610029-004-AC (PSD-FL-152C)]

Common Conditions

C.15. This emissions unit is also subject to conditions **F.1** through **F.18** contained in **Subsection F. Common Conditions.**

Subsection D. This section addresses the following emissions unit.

004	Fossil Fuel Steam Generator, Unit 4, rated at 56 MW, 685 mmBtu/hr, capable of burning any combination of natural gas, numbers 2, 4 and 6 fuel oil, and propane as an ignitor fuel, with emissions exhausted through a 200 ft. stack.

{Permitting Notes: The emissions unit is regulated under Acid Rain, Phase II, and Rule 62-210.300, F.A.C., Permits Required and is subject to 40 CFR 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971. The affected facility to which this subpart applies is fossil fuel steam generator, Unit 4, emissions unit 004. Fossil fuel fired steam generator Unit 4 began commercial operation in 1976.}

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. The maximum operation heat input rates are as follows:

Unit No.	mmBtu/hr Heat Input	Fuel Type
004	685	Natural Gas
	685	Fuel Oil

[Rules 62-4.160(2), 62-210.200(PTE)]

D.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **F.14**.
[Rule 62-297.310(2), F.A.C.]

D.3. Methods of Operation. Fuels. The only fuels allowed to be burned are any combination of natural gas and numbers 2, 4 and 6 fuel oil. Propane may be used as an ignitor fuel.
[Rule 62-213.410, F.A.C., AO 31-229058, and applicant request in Title V application received June 14, 1996]

Emission Limitations and Standards

{Permitting note: Unless otherwise specified, the averaging time for conditions **D.4.** - **D.6.** are based on the specified averaging time of the applicable test method.}

D.4. Pursuant to 40 CFR 60.42 Standard For Particulate Matter.

(a) No owner or operator shall cause to be discharged into the atmosphere from any affected facility any gases which:
(1) Contain particulate matter in excess of 43 nanograms per joule heat input (0.10 lb per million Btu) derived from fossil fuel.
(2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.
[40 CFR 60.42(a)(1) & (2)]

D.5. Pursuant to 40 CFR 60.43 Standard For Sulfur Dioxide.

(a) No owner or operator shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of:
(1) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from liquid fossil fuel.
(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.
[40 CFR 60.43(a) & (c)]

D.6. Pursuant to 40 CFR 60.44 Standard For Nitrogen Oxides.

(a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which contain nitrogen oxides, expressed as NO_2 in excess of:
(1) 86 nanograms per joule heat input (0.20 lb per million Btu) derived from gaseous fossil fuel.
(2) 129 nanograms per joule heat input (0.30 lb per million Btu) derived from liquid fossil fuel
(b) When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$PS_{NOx} = (86x+130y)/(x+y)$

where:
PS_{NOx} = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired;
x = is the percentage of total heat input derived from gaseous fossil fuel; and,
y = is the percentage of total heat input derived from liquid fossil fuel.
[40 CFR 60.44(a) & (b)]

Test Methods and Procedures

D.7. Sulfur Dioxide. **Pursuant to 40 CFR 60.45(b)(2), the owner or operator elected to use fuel sampling and analysis in lieu of installing a continuous monitoring system for SO_2.** This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. Compliance with the sulfur dioxide emission limitation shall be determined in accordance with the fuel sampling and analysis requirements of 40 CFR 75, Appendix D.
[Rule 62-213.440, F.A.C., and 40 CFR 60.45(b)(2)]

D.8. Pursuant to 40 CFR 60.46 Test methods and Procedures.

(a) When conducting emissions tests, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 or other methods and procedures as specified in 40 CFR 60.46, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.46(d).
(b) The owner or operator shall determine compliance with the particulate matter, SO_2, and NO_X standards in 40 CFR 60.42, 60.43, and 60.44 as follows:
(1) The emission rate (E) of particulate matter, SO_2, or NO_X shall be computed for each run using the following equation:

$E = C F_d (20.9)/(20.9 - \% O_2)$

E = emission rate of pollutant, ng/J (1b/million Btu).
C = concentration of pollutant, ng/dscm (1b/dscf).
$\% O_2$ = oxygen concentration, percent dry basis.
F_d = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particulate matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B shall be used to determine the particulate matter concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train may be set to provide a gas temperature no greater than 160 ± 14 °C (320 ± 25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O_2 concentration ($\%O_2$). The O_2 sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O_2 concentration for the run shall be the arithmetic mean of all the individual O_2 sample concentrations at each traverse point.

(iii) If the particulate run has more than 12 traverse points, the O_2 traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O_2 traverse points.

(3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(4) Method 6 shall be used to determine the SO_2 concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the O_2 concentration ($\%O_2$). The O_2 sample shall be taken simultaneously with, and at the same point as, the SO_2 sample. The SO_2 emission rate shall be computed for each pair of SO_2 and O_2 samples. The SO_2 emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 shall be used to determine the NO_X concentration. .

(i) The sampling site and location shall be the same as for the SO_2 sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_X sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O_2 concentration ($\%O_2$). The sample shall be taken simultaneously with, and at the same point as, the NO_X sample.

(iii) The NO_X emission rate shall be computed for each pair of NO_X and O_2 samples. The NO_X emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels are fired, the owner or operator (in order to compute the prorated standard as shown in 40 CFR 60.43(b) and 60.44(b)) shall determine the percentage (x or y) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D 240-76 (liquid fuels), or D 1826-77 (gaseous fuels) (incorporated by reference-see 40 CFR 60.17) shall be used to determine the gross calorific values of the fuels.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.
(d) The owner or operator may use the following as alternatives to the reference methods and procedures in 40 CFR 60.46 or in other sections as specified:
(1) The emission rate (E) of particulate matter, SO_2 and NO_X may be determined by using the Fc factor, provided that the following procedure is used:
(i) The emission rate (E) shall be computed using the following equation:

$$E = C F_c (100 / \%CO_2)$$

where:
E = emission rate of pollutant, ng/J (lb/million Btu).
C = concentration of pollutant, ng/dscm (lb/dscf).
$\%CO_2$ = carbon dioxide concentration, percent dry basis.
F_c = factor as determined in appropriate sections of Method 19.

(ii) If and only if the average F_c factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B shall be used to determine the O_2 and CO_2 concentration according to the procedures in 40 CFR 60.46(b) (2)(ii), (4)(ii), or (5)(ii). Then if F_o (average of three runs), as calculated from the equation in Method 3B, is more than ± 3 percent than the average F_o value, as determined from the average values of F_d and F_c in Method 19, i.e., $F_{oa} = 0.209 (F_{da} / F_{ca})$, then the following procedure shall be followed:
(A) When F_o is less than 0.97 F_{oa}, then E shall be increased by that proportion under 0.97 F_{oa}, e.g., if F_o is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.
(B) When F_o is less than 0.97 F_{oa} and when the average difference ($\overline{d}$) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{oa}, e.g., if Fo is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.
(C) When F_o is greater than 1.03 F_{oa} and when $\overline{d}$ is positive, then E shall be decreased by that proportion over 1.03 F_{oa}, e.g., if F_o is 1.05 F_{oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.
(2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The procedures of sections 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.
(3) Particulate matter and SO_2 may be determined simultaneously with the Method 5 train provided that the following changes are made:
(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.
(ii) All applicable procedures in Method 8 for the determination of SO_2 (including moisture) are used:
(4) For Method 6, Method 6C may be used. Method 6A may also be used whenever Methods 6 and 3B data are specified to determine the SO_2 emission rate, under the conditions in 40 CFR 60.46(d)(1).

(5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O_2 concentration ($\%O_2$) for the emission rate correction factor.
(6) For Method 3, Method 3A or 3B may be used.
(7) For Method 3B, Method 3A may be used.
[40 CFR 60.46(a), (b), (c) & (d)]

Monitoring of Operations

D.9. Annual Tests Required - PM, VE, SO_2 and NOx. Except as provided in specific conditions **F.6** through **F.8** of this permit, emission testing for particulate matter emissions, visible emissions, sulfur dioxide and nitrogen oxides shall be performed annually, no later than August 1st of each year, except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service.
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

D.10. Pursuant to 40 CFR 60.45 Emission and Fuel Monitoring.

CMS for Opacity and NOx are Required, No CMS for SO_2 Required.
(a) Each owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions, and either oxygen or carbon dioxide except as provided in 40 CFR 60.45(b).
(b) Certain of the continuous monitoring system requirements under 40 CFR 60.45(a) do not apply to owners or operators under the following conditions:
(2) For a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, a continuous monitoring system for measuring sulfur dioxide emissions is not required if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis under 40 CFR 60.45(d).

The owner or operator may comply with the applicable emission and fuel monitoring requirements of 40 CFR 60 by complying with the applicable emission and fuel monitoring requirements of 40 CFR 75.

[40 CFR 60.45(a) & (b); Request of applicant in comments on Draft permit received August 18, 1997]

Excess Emission Reports.
(g) Excess emission reports shall be submitted to the Department for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission report shall include the information required in 40 CFR 60.7(c). Periods of excess emissions that shall be reported are defined as follows:
(1) Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.
(3) Nitrogen oxides. Excess emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards under 40 CFR 60.44.
[40 CFR 60.45(g)]

Other NSPS Subpart D Conditions

D.11. Pursuant to 40 CFR 60.41 Definitions. As used in 40 CFR 60 Subpart D, all terms not defined in 40 CFR 60.41 shall have the meaning given them in the Act, and in Subpart A of 40 CFR 60.

Common Conditions

D.12. This emissions unit is also subject to conditions **F.1** and **F.4** through **F.18** contained in **Subsection F. Common Conditions.**

D.13. These emissions units are also subject to conditions **G.1** through **G.6** contained in **Subsection G. NSPS Common Conditions.**

Subsection E. This section addresses the following emissions unit.

005	Combined Cycle Gas Turbine, Unit 5, rated at 38 MW, 455 mmBtu/hr for number 2 fuel oil and 414 mmBtu/hr for natural gas, capable of burning any combination of, number 2 fuel oil, and natural gas, with emissions exhausted through a 125 ft. stack.

{Permitting Notes: This emissions unit is regulated under Acid Rain, Phase II and Rule 62-210.300, F.A.C., Permits Required and is subject to 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines. The affected facility to which this subpart applies is the combined cycle gas turbine, Unit 5. This unit underwent a BACT Determination dated June 28, 1991. BACT Limits were incorporated into the subsequent PSD permits including 0610029-004-AC (PSD-FL-152C). Exhaust is vented through the heat recovery steam generator that is not equipped with duct burners and then through a 125 ft. stack. Emissions are controlled by dry low-NOx burners when firing natural gas, and by water injection when firing fuel oil. This unit is subject to CAM when using water injection. An evaporative cooling system was installed at the compressor inlet of Unit 5 in accordance with Permit No. 0610029-004-AC (PSD-FL-152C). The system cools the inlet air to the turbine, which increases turbine output and decreases heat rate. The system may be operated at any time that Unit 5 is in operation. The turbine exhaust may also be vented through a bypass stack for simple cycle operation. The turbine began commercial operation in 1992.}

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

Essential Potential to Emit (PTE) Parameters

E.1. Permitted Capacity. The maximum operation heat input rates are as follows:

Unit No.	mmBtu/hr Heat Input	Fuel Type
005	414*	Natural Gas
	455*	No. 2 Fuel Oil

* Based on 101.3 kilopascals pressure, 288 Kelvin and 60% relative humidity (ISO standard day conditions), and lower heating value of the fuel fired.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C., and 0610029-004-AC (PSD-FL-152C)]

E.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **E.10.**
[Rule 62-297.310(2), F.A.C.]

E.3. Methods of Operation - Fuels. Any combination of only natural gas and number 2 fuel oil shall be fired in the combustion turbine. See specific conditions **E.4** and **E.6** of this permit. {Note: The limitations of specific conditions **E.4** and **E.6** are more stringent than the NSPS sulfur dioxide limitation and thus assure compliance with 40 CFR 60.333 and 60.334.}
[Rule 62-213.410, F.A.C.]

E.4. Fuel Oil Consumption Limits. The permitted fuel oil utilization rates for this emissions unit are:

a. Maximum annual consumption of number 2 fuel oil shall not exceed 10,000,000 gal./yr.
b. Maximum annual firing using number 2 fuel oil shall not exceed 33% of the annual capacity factor.

[Rules 62-4.070(3) and 62-213.440, F.A.C., and 0610029-004-AC (PSD-FL-152C)]

Emission Limitations and Standards

{Permitting note: Unless otherwise specified, the averaging time for conditions **E.5.** - **E.7.** are based on the specified averaging time of the applicable test method.}

E.5. Visible Emissions Visible emissions shall not exceed 10% opacity.
[0610029-004-AC (PSD-FL-152C)]

E.6. Sulfur Dioxide - Sulfur Content. The No. 2 fuel oil sulfur content shall not exceed 0.25 percent, by weight. See specific conditions **E.11 and E.12** of this permit. The natural gas sulfur content shall not exceed 10 grains per hundred cubic feet (standard conditions). See specific condition **E.15** of this permit.
{Note: The limitations of specific conditions **E.4** and **E.6** are more stringent than the NSPS sulfur dioxide limitation and thus assure compliance with 40 CFR 60.333 and 60.334. The sulfur limitation on natural gas has been added to assure compliance with 40 CFR 60.333.}
[Rules 62-4.070(3) and 62-213.440, F.A.C., and 0610029-004-AC (PSD-FL-152C)]

E.7. The maximum allowable emissions from Unit 5 shall not exceed the emission limitations listed below.

Pollutant	Emission Limits			Basis
	Gas	Number 2 Fuel Oil	Tons/Year [a, b]	
NOx [c]	25 ppmvd at 15% oxygen on a dry basis	42 ppmvd at 15% oxygen on a dry basis	243.7	BACT
SO_2	Natural gas as fuel	0.25% S by weight	178.2	BACT
PM_{10}	0.006 lb/mmBtu	0.025 lb/mmBtu	23.7	BACT
VOC	0.0112 lb/mmBtu	0.0113 lb/mmBtu	21.0	PSD-FL-152C
CO	0.0224 lb/mmBtu	0.0226 lb/mmBtu	42.1	PSD-FL-152C

a Tons per year based on 67% capacity factor for natural gas firing, 33% capacity factor number 2 fuel oil firing.
b Based on 455 mmBtu/hr for number 2 fuel oil and 414 mmBtu/hr for natural gas.
c NOx emission limit during co-firing of natural gas and number 2 fuel oil shall be determined by the following:

$$\text{NOx Limit} = \frac{(Lg \times Qg) + (Lo \times Qo)}{Qg + Qo}$$

where:
Lg = Emission limit for natural gas
Qg = Heat input of natural gas
Lo = Emission limit for fuel oil
Qo = Heat input of fuel oil

{Note: The limitations of specific condition **E.7** are more stringent than the NSPS nitrogen oxides limitation and thus ensure compliance with 40 CFR 60.332 and 60.334.}
[0610029-004-AC (PSD-FL-152C) and requested by applicant in the initial Title V permit application received June 14, 1996]

Test Methods and Procedures

E.8. Annual Compliance Tests.. Except as provided in specific conditions F.6 and F.8 of this permit, emission testing for visible emissions and nitrogen oxides shall be performed annually, no later than August 1st of each year, in accordance with specific condition **E.10**, with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using the following EPA reference methods in accordance with 40 CFR 60, Appendix A:

a. Method 9 for VE;
b. Method 20 for NOx.

If the unit is not operating because of scheduled maintenance outages and emergency repairs, it will be tested within thirty days of returning to service.
[Rules 62-4.070(3) and 62-213.440, F.A.C., and 0610029-004-AC (PSD-FL-152C)]

E.9. Testing for PM, CO, VOC. Except as provided in specific condition **F.6** of this permit, emission testing for emissions of particulate matter and carbon monoxide shall be performed in the year prior to renewal of this permit, in accordance with specific condition **E.10**, while burning fuel oil. Emission testing for emissions of VOC shall be performed only if the CO test does not demonstrate compliance with the emissions limitation of specific condition **E.7** of this permit. Particulate matter tests shall be conducted using EPA test methods 5 or 17. Carbon monoxide tests shall be conducted using EPA test method 10. VOC tests, if required, shall be conducted using EPA test method 25A.
[Rules 62-4.070(3) and 62-213.440, F.A.C., and 0610029-004-AC (PSD-FL-152C)]

E.10. Additional Test Requirements. Test results shall be the average of three valid runs. Testing of emissions shall be conducted with the emissions unit operating at permitted capacity, which is defined as 95-100 percent of the maximum heat input rate allowed by this permit, achievable for the average ambient air temperature during the test. If it is impracticable to test at permitted capacity, the emissions unit may be tested at less than permitted capacity. In such cases, subsequent operation is limited by adjusting downward the entire heat input vs. inlet temperature curve by the increment equal to the difference between the maximum permitted heat input value and 105 percent of the value reached during the test. Once the emissions 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. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.
[0610029-004-AC (PSD-FL-152C)]

E.11. Sulfur Dioxide - Sulfur Content. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by fuel sampling and analysis. See specific conditions **E.6 and E.12**. The permittee shall demonstrate compliance with the gaseous fuel sulfur limit via record keeping. See specific condition **E.15**.
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

E.12. Fuel Sampling & Analysis - Sulfur. Compliance with the liquid fuel sulfur limit shall be determined using fuel sampling and analysis in accordance with the fuel sampling and analysis requirements of 40 CFR 75, Appendix D.
[Rule 62-213.440, F.A.C., and , and 0610029-004-AC (PSD-FL-152C)]

Monitoring of Operations

E.13. Continuous Monitoring Required. A continuous monitoring system shall be maintained to record fuel consumption. A continuous monitoring system shall be maintained to record emissions of nitrogen oxides in accordance with the requirements of 40 CFR 75.
[0610029-004-AC (PSD-FL-152C) and requested by applicant in the initial Title V permit application received June 14, 1996]

E.14.1. Excess Emissions by CEMS. The CEMS for NOx shall be used to determine periods of excess emissions. Excess emissions are defined for this emissions unit as any 60-minute period during which the average emissions exceed the emission limits of specific condition **E.7** of this permit. Periods of startup, shutdown, malfunction shall be monitored, recorded and reported with excess emissions following the format and requirements of 40 CFR 60.7.
{Note: The requirements of specific condition **E.14** are more stringent than the NSPS monitoring provisions and thus assure compliance with 40 CFR 60.334 and 60.335.}
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

Compliance Assurance Monitoring (CAM) Requirements

E.14.2. Compliance Assurance Monitoring (CAM). This emissions unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation;, however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C..
[40 CFR 64; and, Rules 62-204.800 and 62-213.440(4)(b)4., F.A.C.]

Record Keeping and Reporting Requirements

E.15. Natural Gas Sulfur Content Records Required. The owner or operator shall monitor the sulfur content of natural gas in accordance with 40 CFR 60.334 (h)(3)(i).
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

E.16. Additional Reports Required. The owner or operator shall report the following with the Air Operating Report (AOR): sulfur content, by weight, and lower heating value of the fuel oil fired in the previous year; sulfur content of natural gas in accordance with 40 CFR 60.334 (h)(3)(i) or 40 CFR 60.334 (h)(3)(ii); annual fuel consumption of number 2 fuel oil and natural gas; and hours of operation per fuel usage (single fired and co-fired).
[Rule 62-210.370(3), F.A.C., and, 0610029-004-AC (PSD-FL-152C)]

Other Conditions

E.17. This emissions unit is also subject to conditions **F.1** through **F.18, except for F.2, F.3, F.7 and F.8**, contained in **Subsection F. Common Conditions.**

E.18. This emissions unit is also subject to condition **G.1** through **G.6** contained in **Subsection G. NSPS Common Conditions.**

Subsection F. Common Conditions.

E.U. ID No.	Brief Description
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
003	Fossil Fuel Steam Generator, Unit 3
004	Fossil Fuel Steam Generator, Unit 4
005	Combined Cycle Gas Turbine, Unit 5

The following conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

F.1. Hours of Operation. These emissions units may operate continuously, i.e., 8,760 hours/year.
[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting Notes: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

Excess Emissions

{Permitting note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS or NESHAP provision.}

F.2. (This condition is not applicable to emissions units 004 and 005.) Excess emissions resulting from malfunction shall be permitted provided that 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.
[Rule 62-210.700(1), F.A.C.]

F.3. (This condition is not applicable to emissions units 004 and 005.) Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

F.4. 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.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

F.5. 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.]

F.6. 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.
2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
3. 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 Rule 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 fuel for a total of no more than 400 hours.
4. 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:
a. Visible emissions, if there is an applicable standard;
b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
9. 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 may 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.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

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

F.7. (This condition is not applicable to emissions unit 005.) When PM Tests Not Required. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or

b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or

c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

F.8. (This condition is not applicable to emissions unit 005.) When VE Tests Not Required. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or

b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or

c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-4.070(3), F.A.C.]

Test Methods and Procedures

{Permitting Notes: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

F.9. Visible Emissions - Boiler 4, Turbine. The test method for visible emissions for emissions units 004 (Unit 4) and 005 (Turbine, Unit 5) shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.

[Rules 62-204.800 and 62-297.401, F.A.C.]

F.10. Visible Emissions - Boilers, Units 1, 2 and 3. The test method for visible emissions for emissions units 001 (Unit 1), 002 (Unit 2) and 003 (Unit 3) shall be DEP Method 9, incorporated

in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See specific condition **F.11**.
[Rules 62-296.405(1)(e)1. and 62-297.401, F.A.C.]

F.11. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.
2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:
    a. For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.
    b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.
[Rule 62-297.401, F.A.C.]

F.12. 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 the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.]

F.13. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.]

F.14. Operating Rate During Testing. Testing of emissions shall be conducted with each emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions 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.
[Rules 62-297.310(2) & (2)(b), F.A.C.]

F.15. Applicable Test Procedures.
(a) Required Sampling Time.
1. 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.
2. 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:
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.
(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.
(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.
(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.
[Rule 62-297.310(4), F.A.C.]

F.16. Required Stack Sampling Facilities. When a mass emissions stack test is required, the owner or operator shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.
[Rule 62-297.310(6), F.A.C.]

Record Keeping and Reporting Requirements

F.17. Malfunctions - Notification. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Central District Air Section 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 Central District Air Section.
[Rule 62-210.700(6), F.A.C.]

F.18. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Central District Air Section on the results of each such test.

(b) The required test report shall be filed with the Central District Air Section as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Central District Air Section 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.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

Subsection G. NSPS Common Conditions.

E.U. ID No.	Brief Description
004	Fossil Fuel Steam Generator, Unit 4
005	Combined Cycle Gas Turbine, Unit 5

{Permitting Notes: The emissions units above are subject to the following conditions from 40 CFR 60 Subpart A, General Provisions. The affected facilities to which this subpart applies are fossil fuel steam generator, Unit 4 and the combined cycle gas turbine, Unit 5. To the extent allowed by law, the Administrator shall mean the Department.}

The following conditions apply to the NSPS emissions units listed above:

G.1. Pursuant to 40 CFR 60.7 Notification And Record Keeping.

(a) Any owner or operator subject to the provisions of 40 CFR 60 shall furnish the Administrator written notification as follows:
(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
(b) The owner or operator subject to the provisions of 40 CFR 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
(c) The owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see 40 CFR 60.7(d)) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:
(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

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

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

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

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

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

(i) For one full year (e.g., four quarterly or twelve monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under 40 CFR 60 continually demonstrate that the facility is in compliance with the applicable standard;

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

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

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

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

(f) The owner or operator subject to the provisions of 40 CFR 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.
[40 CFR 60.7 and Rule 62-213.440(1)(b)2.b., F.A.C.]

G.2. Pursuant to 40 CFR 60.8 Performance Tests.

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart, except as otherwise authorized by an approved alternative method.
(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.
[40 CFR 60.8]

G.3. Pursuant to 40 CFR 60.11 Compliance With Standards And Maintenance Requirements.

(a) Compliance with standards in 40 CFR 60, other than opacity standards, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.
(b) **(This paragraph is only applicable to emissions unit 004.)** Compliance with opacity standards in 40 CFR 60 shall be determined by conducting observations in accordance with Reference Method 9 in appendix A of 40 CFR 60, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5).
(c) **(This paragraph is only applicable to emissions unit 004.)** The opacity standards set forth in 40 CFR 60 shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.
(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may

include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(e)(5) **(This paragraph is only applicable to emissions unit 004.)** The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine opacity compliance.
[40 CFR 60.11]

G.4. Pursuant to 40 CFR 60.12 Circumvention.

No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.
[40 CFR 60.12]

G.5. Pursuant to 40 CFR 60.13 Monitoring Requirements.

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.
(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he/she shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 CFR 60. The

owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

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

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

(d)(1) Owners and operators of all continuous emission monitoring systems installed in accordance with the provisions of 40 CFR 60 shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

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

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

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

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

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

(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g.,

multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.
(h) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorder during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O2 or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).
[40 CFR 60.13]

Section IV. This section is the Acid Rain Part.

Operated by: City of Vero Beach
ORIS code: 0693

Subsection A. This subsection addresses Acid Rain, Phase II.

The emissions units listed below are regulated under Acid Rain, Phase II.

E.U. ID No.	Brief Description
003	Fossil Fuel Steam Generator, Unit 3
004	Fossil Fuel Steam Generator, Unit 4
005	Combined Cycle Gas Turbine, Unit 5

A.1. The Phase II permit application(s) submitted for this facility, as approved by the Department,is a part of this permit. The owners and operators of these Phase II acid rain unit(s) must comply with the standard requirements and special provisions set forth in the application(s) listed below:

a. DEP Form No. 62-210.900(1)(a), dated July 3, 2007.

[Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO_2) allowance allocations for each Acid Rain unit are as follows:

E.U. ID No.	EPA ID	Year	2008	2009	2010	2011	2012
003	3	SO2 allowances, under Table 2 or 3 of 40 CFR Part 73	315*	315*	316*	316*	316*
004	4	SO2 allowances, under Table 2 or 3 of 40 CFR Part 73	107*	107*	116*	116*	116*
005	**5	SO2 allowances, under Table 2 or 3 of 40 CFR Part 73	317*	317*	318*	318*	318*

* The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 or 3 of 40 CFR 73.

A.3. Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.
1. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
2. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
3. Allowances shall be accounted for under the Federal Acid Rain Program.
[Rule 62-213.440(1)(c), F.A.C.]

A.4. Fast-Track Revisions of Acid Rain Parts. Those Acid Rain sources making a change described at Rule 62-214.370(4), F.A.C., may request such change as provided in Rule 62-213.413, F.A.C.
[Rules 62-213.413 and 62-214.370(4), F.A.C.]

A.5. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400, F.A.C.
[Rule 62-213.440(1)(c)1., F.A.C.]

A.6. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator.
[40 CFR 70.6(a)(1)(ii); and, Rule 62-210.200, Definitions - Applicable Requirements, F.A.C.]

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

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62.210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

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

Brief Description of Emissions Units and/or Activities

1. Startup generator diesel engine associated with Unit 5.
2. Vapor extractor rooftop vents, one each for Units 1-4.
3. Cooling tower.
4. Diesel fuel tank for vehicles and gasoline fuel tank for vehicles (500 gal. capacity each).
5. 750 kW diesel generator used 4 hrs/month at wastewater treatment plant.

Appendix H-1, Permit History/ID Number Changes

Permit History and ID Number Changes (for tracking purposes):

E.U. ID No.	Description	Permit No.	Issue Date	Expiration Date	Revised Date(s)
Unit 1	Fossil Fuel Steam Generator, Unit 1	AO31-184320	12/28/90	12/25/95	2/14/91
Unit 2	Fossil Fuel Steam Generator, Unit 2	AO31-226295	11/29/93	5/30/98	
Unit 3	Fossil Fuel Steam Generator, Unit 3	AO31-224290	11/2/93	2/25/98	
Unit 4	Fossil Fuel Steam Generator, Unit 4	AO31-229058	10/13/93	6/30/98	
		AC31-2182	10/11/73	11/1/75	
Unit 5	Combined Cycle Gas Turbine, Unit 5	AC31-184928	6/28/91	12/31/93	
		AC31-184928/ PSD-FL-152	7/1/91	9/30/94	1/13/94, 4/5/94, 7/12/94
		AC31-184928A/ PSD-FL-152A	3/27/95	7/31/95	10/6/93, 10/4/94, 1/31/95
Unit 5	Combined Cycle Gas Turbine, Unit 5	0610029-004-AC/ PSD-FL-152C*	4/04/01		9/27/95
		AO31-227564	10/7/93	9/30/98	

* 0610029-004-AC/PSD-FL-152C effectively superseded the previous construction permits.

Permit No. 0610029-002-AV
Initial Title V permit.

Permit No. 0610029-004-AC (PSD-FL-152C)
Authorization to install an evaporative cooling system at the compressor inlet of Unit 5.

Permit No. 0610029-005-AV
Title V Permit Revision to include an evaporative cooling system installed at the compressor inlet of Unit 5.

Permit No. 0610029-006-AV
Title V Permit Renewal. Effective Date January 1, 2003.

Permit No. 0610029-007-AV
Title V Permit Renewal. Effective Date January 1, 2008.

Notes:
1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.
2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.
{Rule 62-213.420(1)(b)2., F.A.C., effective 03/20/96, allows Title V Sources to operate under existing valid permits}

Appendix U-1, List of Unregulated Emissions Units and/or Activities

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

E.U. ID No.	Brief Description of Emissions Units and/or Activity
006	Fuel oil and lube oil storage tanks. Tanks are: Tank 1 (1,560,000 gal. capacity) fuel oil; Tank 2 (3,108,000 gal. capacity) fuel oil; Diesel tank for Unit 5 startup generator; Lube oil tanks and vents, one each for Units 1 - 5.
007	Waste water treatment plant, including headworks, liquid treatment processes and storage tanks.

Table 1-1, Summary of Air Pollutant Emission Standards

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

Emissions Unit	Brief Description
001	Fossil Fuel Steam Generator, Unit 1, rated at 13 MW.
002	Fossil Fuel Steam Generator, Unit 2, rated at 17 MW.

			Allowable Emissions			Equivalent Emissions[1]			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lb/hour	TPY	lb/hour	TPY	Regulatory Citations	See Permit Condition(s)
VE Steady State	Oil, Natural Gas	8760	20% opacity, except for 40% for 2 min. each hour					Rule 62-296.406(1), F.A.C.	A.4, B.4
VE Soot Blowing or Load Change	Oil, Natural Gas	8760	60% opacity					Rule 62-210.700(3), F.A.C.	A.5, B.5
PM, SO_2 Unit 1	Oil	8760	1.5% S by weight, fuel oil			230.2*	1008*	Rule 62-296.406(2), F.A.C., & BACT	A.6 & A.7
PM, SO_2 Unit 2	Oil	8760	1.5% S by weight, fuel oil			399.5*	1750*	Rules 62-4.070(3) & 62-296.406(2), F.A.C., & BACT	B.6 & B.7

Notes for EU 001 & 002:

* Lb/hour and TPY values are for SO_2 emissions using fuel oil.

Table 1-1, Continued

Emissions Unit	Brief Description
003	Fossil Fuel Steam Generator, Unit 3, rated at 34 MW.

			Allowable Emissions			Equivalent Emissions			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lb/hour	TPY	lb/hour	TPY	Regulatory Citations	See Permit Condition(s)
VE Steady State	Oil, Natural Gas	8760	20% opacity, except for 40% for 2 min. each hour					Rule 62-296.405(1)(a), F.A.C.	C.4
VE Soot Blowing or Load Change	Oil, Natural Gas	8760	60 % opacity (>60% opacity for not more than 4, six-minute periods)					Rule 62-210.700(3), F.A.C.	C.5
PM Steady State	Oil, Natural Gas	8760	0.1 lb/mmBtu			41*	179.6*	Rule 62-296.405(1)(b), F.A.C.	C.6
PM Soot Blowing or Load Change	Oil, Natural Gas	8760	0.3 lb/mmBtu			123*	67.3*	Rule 62-210.700(3), F.A.C.	C.7
SO_2	Oil, Natural Gas	8760	2.75 lb/mmBtu			1127.5**	4938**	Rules 62-213.440, & 62-296.405(1)(c)1.j. F.A.C.	C.8

Notes for EU 003:

* Lb/hour and TPY values are for PM emissions using fuel oil.

** Lb/hour and TPY values are for SO_2 emissions using fuel oil.

Table 1-1, Continued

Emissions Unit	Brief Description
004	Fossil Fuel Steam Generator, Unit 4, rated at 56 MW.

			Allowable Emissions			Equivalent Emissions			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lb/hour	TPY	lb/hour	TPY	Regulatory Citations	See Permit Condition(s)
VE	Oil, Natural Gas	8760	20% opacity, except for 27% for 6 min. each hour					40 CFR 60.42(a)(2)	D.4
PM	Oil, Natural Gas	8760	0.10 lb/mmBtu			68.5*	300*	40 CFR 60.42(a)(1)	D.4
SO_2	Oil, Natural Gas	8760	0.80 lb/mmBtu			548	2400	40 CFR 60.43(a)(1)	D.5
NOx	Natural Gas	8760	0.20 lb/mmBtu			137*	600.1	40 CFR 60.44(a)(1)	D.6
NOx	Oil	8760	0.30 lb/mmBtu			205.5*	900.1*	40 CFR 60.44(a)(2)	D.6

Notes for EU 004:

* Lb/hour and TPY values for PM and NOx emissions based on using number 4 fuel oil for total heat input.

Table 1-1, Continued

Emissions Unit	Brief Description
005	Combined Cycle Gas Turbine, Unit 5, rated at 38 MW.

			Allowable Emissions			Equivalent Emissions			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lb/hour	TPY[a]	lb/hour[b]	TPY[b]	Regulatory Citations	See Permit Condition(s)
VE	No. 2 Fuel Oil, Natural Gas	8760	10 % opacity					0610029-004-AC (PSD-FL-152C)	E.5
SO_2	"	8760	0.25% S by weight, fuel oil 10 gr S/ccf, natural gas		178.2	123	177	0610029-004-AC (PSD-FL-152C)	E.6
NOx	No. 2 Fuel Oil	8760	42 ppmvd at 15% oxygen on a dry basis		243.7	79	114.2	0610029-004-AC (PSD-FL-152C)	E.7
NOx	Natural Gas	8760	25 ppmvd at 15% oxygen on a dry basis		243.7	44.3	194	0610029-004-AC (PSD-FL-152C)	E.7
PM_{10}	No. 2 Fuel Oil	8760	0.025 lb/mmBtu		23.7	11.4	16.4	0610029-004-AC (PSD-FL-152C)	E.7
PM_{10}	Natural Gas	8760	0.006 lb/mmBtu		23.7	2.5	10.9	0610029-004-AC (PSD-FL-152C)	E.7

Table 1-1, Continued

Emissions Unit	Brief Description
005	Combined Cycle Gas Turbine, Unit 5, rated at 38 MW.

		Allowable Emissions				Equivalent Emissions[1]			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lb/hour	TPY[a]	lb/hour[b]	TPY[b]	Regulatory Citations	See Permit Condition(s)
VOC	No. 2 Fuel Oil	8760	0.0113 lb/mmBtu		21.0	5.1	7.4	0610029-004-AC (PSD-FL-152C)	E.7
VOC	Natural Gas	8760	0.0112 lb/mmBtu		21.0	4.6	20.3	0610029-004-AC (PSD-FL-152C)	E.7
CO	No. 2 Fuel Oil	8760	0.0226 lb/mmBtu		42.1	10.3	14.9	0610029-004-AC (PSD-FL-152C)	E.7
CO	Natural Gas	8760	0.0224 lb/mmBtu		42.1	9.3	40.6	0610029-004-AC (PSD-FL-152C)	E.7

Notes for EU 005:

a, b Tons per year and equivalent emissions based on 67% capacity factor for natural gas firing, 33% capacity factor number 2 fuel oil firing, based on 455 mmBtu/hr for number 2 fuel oil and 414 mmBtu/hr for natural gas.

Notes:

[1] The "Equivalent Emissions" listed are for informational purposes only. [Rule 62-213.205, F.A.C.]
NA = not applicable

Table 2-1, Summary of Compliance Requirements

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

Emissions Unit		Brief Description					
001		Fossil Fuel Steam Generator, Unit 1, rated at 13 MW.					
002		Fossil Fuel Steam Generator, Unit 2, rated at 17 MW.					
Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
VE	Oil, Natural Gas	DEP Method 9	Annual	August 1st	1 hour	No	A.10, B.10
PM, SO_2	Oil	Fuel Sampling & Analysis	As Received			No	A.8 & A.9, B.8 & B.9

Emissions Unit		Brief Description					
003		Fossil Fuel Steam Generator, Unit 3, rated at 34 MW.					
Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
VE	Oil, Natural Gas	DEP Method 9	Annual	August 1st	1 hour	No	C.13
PM	Oil, Natural Gas	EPA Test Methods 17, 5, 5B, or 5F	Annual	August 1st	3 hours	No	C.9, C.13
SO_2	Oil, Natural Gas	Fuel Sampling & Analysis	Per 40 CFR 75, Appendix D			No	C.10, C.11, C.12

Table 2-1, Continued

Emissions Unit	Brief Description
004	Fossil Fuel Steam Generator, Unit 4, rated at 56 MW.

Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
VE	Oil, Natural Gas	EPA Method 9	Annual	August 1st	1 hour	Yes	D.8
PM	Oil, Natural Gas	EPA Test Methods 5 or 17	Annual	August 1st	3 hours	No	D.8
SO_2	Oil, Natural Gas	Fuel Sampling & Analysis	Per 40 CFR 75, Appendix D			No	D.7
NOx	Oil, Natural Gas	EPA Test Methods 7, 7A, 7C, 7D, or 7E	Annual	August 1st	3 hours	Yes	D.8

Table 2-1, Continued

Emissions Unit		Brief Description					
005		Combined Cycle Gas Turbine, Unit 5, rated at 38 MW.					
Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
VE	No 2 Fuel Oil, Natural Gas	EPA Method 9	Annual	August 1st	1 hour	No	E.8
SO_2	"	Fuel Sampling & Analysis	Per 40 CFR 75, Appendix D			Yes*	E.11, E.12
NOx	"	EPA Test Method 20	Annual	August 1st	3 hours	Yes	E.8
PM_{10}	"	EPA Test Methods 5 or 17	Prior to Renewal		3 hours	No	E.9
VOC	"	EPA Test Method 25A	Only if CO test fails			No	E.9
CO	"	EPA Test Method 10	Prior to Renewal			No	E.9

Notes for EU 005:

* Continuous monitoring of fuel consumption required.

Notes:

[1] Frequency base date established for planning purposes only; see Rule 62-297.310, F.A.C.
[2] CMS = continuous monitoring system
See also Section F for general testing requirements.

City of Vero Beach
City of Vero Beach Municipal Utilities
Facility ID No.: 0610029
Indian River County

COMPLIANCE ASSURANCE MONITORING PLAN

Unit 5 Combined Cycle Gas Turbine

Emissions Unit -005

005	Combined Cycle Gas Turbine, Unit 5, rated at 38 MW, 455 mmBtu/hr for number 2 fuel oil and 414 mmBtu/hr for natural gas, capable of burning any combination of, number 2 fuel oil, and natural gas, with emissions exhausted through a 125 ft. stack.

I. Background

A. Emissions Unit

Description:	Combined Cycle Gas Turbine
Identification:	Emission Unit ID No. 005
Stack designation:	HRSG Stack
Facility ID No.	0610029
Facility:	City of Vero Beach Municipal Utilities Vero Beach, Florida

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	BACT
Regulated pollutants:	Nitrogen Oxides (NO_x)
Emission limit:	42 ppmvd at 15% O_2
Monitoring requirements in permit:	40 CFR Part 75 CEM

C. Control Technology: Water Injection

II. Monitoring Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

III. Monitoring Approach Justification

A. Background

This facility consists of 5 regulated emission units that consist of 4 fossil fuel steam generators (Units 1-4) and a combined cycle gas turbine (Unit 5). Unit 5 is rated at a 38 MW with heat inputs of 414 MMBtu/hr when firing natural gas and 455 MMBtu/hr when firing distillate oil. Emissions of NOx are controlled using dry low-NOx (DLN) combustors when firing natural gas and water injection when firing fuel oil. The NOx emission limits are 25 ppmvd corrected to 15% oxygen when firing natural gas and 42 ppmvd corrected to 15% oxygen when firing distillate oil. The emission unit is authorized to co-fire natural gas and distillate oil with a prorated emission rate based on heat input of fuel. The use of DLN when firing only natural gas is an inherent process control and not a "control device" defined under the CAM regulations in 40 CFR Part 64, Section 64.1. The use of water injection when firing oil, or using water injection when co-firing natural gas and oil, is considered a control device under the Part 64 regulations and CAM would apply. This CAM Plan applies to the use of water injection.

B. Rationale for Selection of Performance Indicators

The emission unit is equipped with a CEM meeting the performance requirements of 40 CFR Part 75. Pursuant to 40 CFR 64.3(d) the use of CEMs to meet the requirements of 40 CFR Part 64 is required if a CEM is required pursuant to other authority under the Act or state law. Since a CEM to meet the requirements of 40 CFR Part 75 has been installed and is also required to provide monitoring data pursuant to the Title V permit. A 40 CFR Part 75 CEM presumptively meets the requirements of 40 CFR Part 64.

C. Rationale for Selection of Indicator Ranges

The indicator ranges and averaging times proposed for the indicator ranges are consistent with the emission limiting standards and monitoring requirements. The indicator range will be NOx emissions of 42 ppmvd corrected to 15% oxygen when firing distillate oil. If co-firing natural gas with distillate oil, a prorated, value calculated based on the heat input of natural gas and distillate oil will be used as the indicator range.

TABLE 1. COMPLIANCE ASSURANCE MONITORING APPROACH, UNIT 5 CITY OF VERO BEACH

	Indicator No. 1	
I. Indicator	NOx emission rate.	
Measurement Approach	NOx emission rate will be monitored by 40 CFR Part 75 CEM.	
II. Indicator Range	An excursion is defined as a NOx emission rate of 42 ppmvd corrected to 15% oxygen on a one-hour average basis, excluding periods of startup, shutdown and malfunction; excursions trigger an inspection and corrective action. The NOx emission rate will be prorated if co-firing occurs.	
III. Performance Criteria A. Data Representativeness	The CEMs is located in the exhaust stack and provides a direct measurement of the NOx concentration.	
B. Verification of Operational Status	Not applicable	
C. QA/QC Practices and Criteria	QA/QC practices will follow the requirements of 40 CFR Part 75	
D. Monitoring Frequency	Measured continuously.	
Data Collection Procedure	Recorded pursuant to 40 CFR Part 75.	
Averaging Period	One-hour average.	

ATTACHMENT VB-EU1-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT VB-EU1-IV3

ALTERNATIVE METHODS OF OPERATION
FOSSIL FUEL STEAM GENERATOR UNIT 1

Unit 1 is permitted to burn natural gas, No. 2 fuel oil, No. 4 fuel oil, and No. 6 fuel oil. The maximum sulfur content of the fuel oil may not exceed 1.5 percent (by weight). Unit 1 can co-fire natural gas and fuel oil. The unit may operate continuously (i.e., 8,760 hours per year) on either fuel type.

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [2]
Fossil Fuel Steam Generator Unit 2

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Fossil Fuel Steam Generator Unit 2

3. Emissions Unit Identification Number: **002**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A		**Jun 1, 1964**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: **17** MW

11. Emissions Unit Comment:
    Emission unit is a fossil fuel-fired steam generator capable of firing natural gas or any combination of natural gas and Nos. 2, 4, and 6 fuel oil. Propane is used as an ignitor fuel.

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

B. EMISSIONS UNIT CAPACITY INFORMATION
(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **248.0** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum Heat Input Rate based on natural gas firing only.** **Maximum Heat Input Rate for fuel oil firing is 243.0 MMBtu/hr.**	

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EU-2**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Stack shared with fossil fuel steam generator Unit 1 (EU ID 001)**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **001**		
5. Discharge Type Code: **V**	6. Stack Height: **200** feet	7. Exit Diameter: **3.5** feet
8. Exit Temperature: **347**°F	9. Actual Volumetric Flow Rate: **79,217** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **561.4** North (km): **3,056.5**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **27/37/52** Longitude (DD/MM/SS) **80/22/33**	
15. Emission Point Comment: **Stack parameters based on Title V renewal application dated June 2007.** **Stack temperature and flow rate are based on natural gas firing. For oil firing, temperature and flow rate are 322°F and 71,651 acfm, respectively. Flow rate is for Unit 2 only.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Natural-Gas Boilers >100 MMBtu/hr**		
2. Source Classification Code (SCC): **1-01-006-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **0.241**	5. Maximum Annual Rate: **2,109**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,030**
10. Segment Comment: **Maximum Hourly Rate based on heat input of 248 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 248 MMBtu/hr / 1,030 MMBtu/MMft^3 = 0.241 MMft^3/hr. Maximum annual rate = 0.241 MMft^3/hr x 8,760 hr/yr = 2,109 MMft^3/yr.**		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Residual Oil No. 6 - Normal Firing**		
2. Source Classification Code (SCC): **1-01-004-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **1.62**	5. Maximum Annual Rate: **14,191**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Based on high heating value (HHV) of No. 6 fuel oil. Maximum hourly rate based on heat input of 150 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 243 MMBtu/hr / 150 MMBtu/1,000 gallons = 1,620 gallons/hr. Maximum annual rate = 1,620 gallons/hr x 8,760 hr/yr = 14,191x10^3 gallons/yr.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grades 1 and 2 Oil**		
2. Source Classification Code (SCC): **1-01-005-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **1.755**	5. Maximum Annual Rate: **15,374**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **138.5**
10. Segment Comment: **Based on high heating value (HHV) of Nos. 1 or 2 fuel oil. Maximum hourly rate based on 138.5 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 243 MMBtu/hr / 138.5 MMBtu/1,000 gallon = 1,755 gallons/hr. Maximum annual rate = 1,755 gallons/hr x 8,760 hr/yr = 15,374x10^3 gallons/yr.**		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grade 4 Oil:Normal Firing**		
2. Source Classification Code (SCC): **1-01-005-04**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **1.688**	5. Maximum Annual Rate: **14,783**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **144**
10. Segment Comment: **Based on high heating value (HHV) of No. 4 fuel oil. Maximum hourly rate based on 243 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 243 MMBtu/hr / 144 MMBtu/1,000 gallon = 1,688 gallons/hr. Maximum annual rate = 1,687.5 gallons/hr x 8,760 hr/yr = 14,783x10^3 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM10			NS
CO			NS
VOC			NS
SO2			EL
NOx			NS
H106			NS
HAPS			NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **27.5** lb/hour **120.7** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **Natural gas or 1.5% sulfur oil** Reference: **Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU2-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on No.6 fuel oil firing.** **Sulfur content of fuel oil limited to 1.5 percent by weight.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.5% sulfur oil**	4. Equivalent Allowable Emissions: **27.5** lb/hour **120.7** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on No. 6 oil firing. (VB-EU2-F1.10). Allowable emissions based on BACT determination dated 2/14/91 [Rule 62-296.406(2), F.A.C.]**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **Natural gas firing**	4. Equivalent Allowable Emissions: **1.8** lb/hour **8.0** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on natural gas firing. (VB-EU2-F1.10). Allowable emissions based on BACT determination dated 2/14/91 [Rule 62-296.406(2), F.A.C.]**	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **399.5** lb/hour **1,750** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **1.5% Sulfur oil** Reference: **Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU2-F1.10.**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on No.6 fuel oil firing.** **Sulfur content of fuel oil limited to 1.5 percent by weight.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.5% sulfur oil**	4. Equivalent Allowable Emissions: **399.5** lb/hour **1,750** tons/year
5. Method of Compliance: **Fuel Oil Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on No. 6 fuel oil firing. (VB-EU2-F1.10). Allowable emissions based on BACT determination dated 2/14/91 [Rule 62-296.406(2), F.A.C.]**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **3**

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-296.406(1), F.A.C. and Permit No. 0610029-007-AV. Annual VE test required only if 400 or more hrs/yr of oil or oil/natural gas combination operation.**	

Visible Emissions Limitation: Visible Emissions Limitation **2** of **3**

1. Visible Emissions Subtype: **VE60**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **60** % Exceptional Conditions: **>60** % Maximum Period of Excess Opacity Allowed: **4 periods of 6** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-210.700(3), F.A.C. and Permit No. 0610029-007-AV. 60 percent opacity during load changing and boiler cleaning (soot blowing) for 3 hours in any 24-hour period. Annual VE test required only if 400 or more hrs/yr of oil or oil/natural gas combination operation.**	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **3** of **3**

1. Visible Emissions Subtype: **VE99**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Excess emissions for startup, shutdown or malfunction. Excess emissions for malfunction limited to 2 hrs/24 hrs. Permit No. 0610029-007-AV. Rule 62-296.700 (1) and (2), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU2-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU2-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU2-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ Attached, Document ID: _____ ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: _____ ☐ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☒ Attached, Document ID: **VB-EU1-IV1**
2.	Compliance Assurance Monitoring: ☐ Attached, Document ID: _____ ☒ Not Applicable
3.	Alternative Methods of Operation: ☒ Attached, Document ID: **VB-EU2-IV3** ☐ Not Applicable
4.	Alternative Modes of Operation (Emissions Trading): ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT VB-EU2-F1.10

EMISSIONS CALCULATIONS

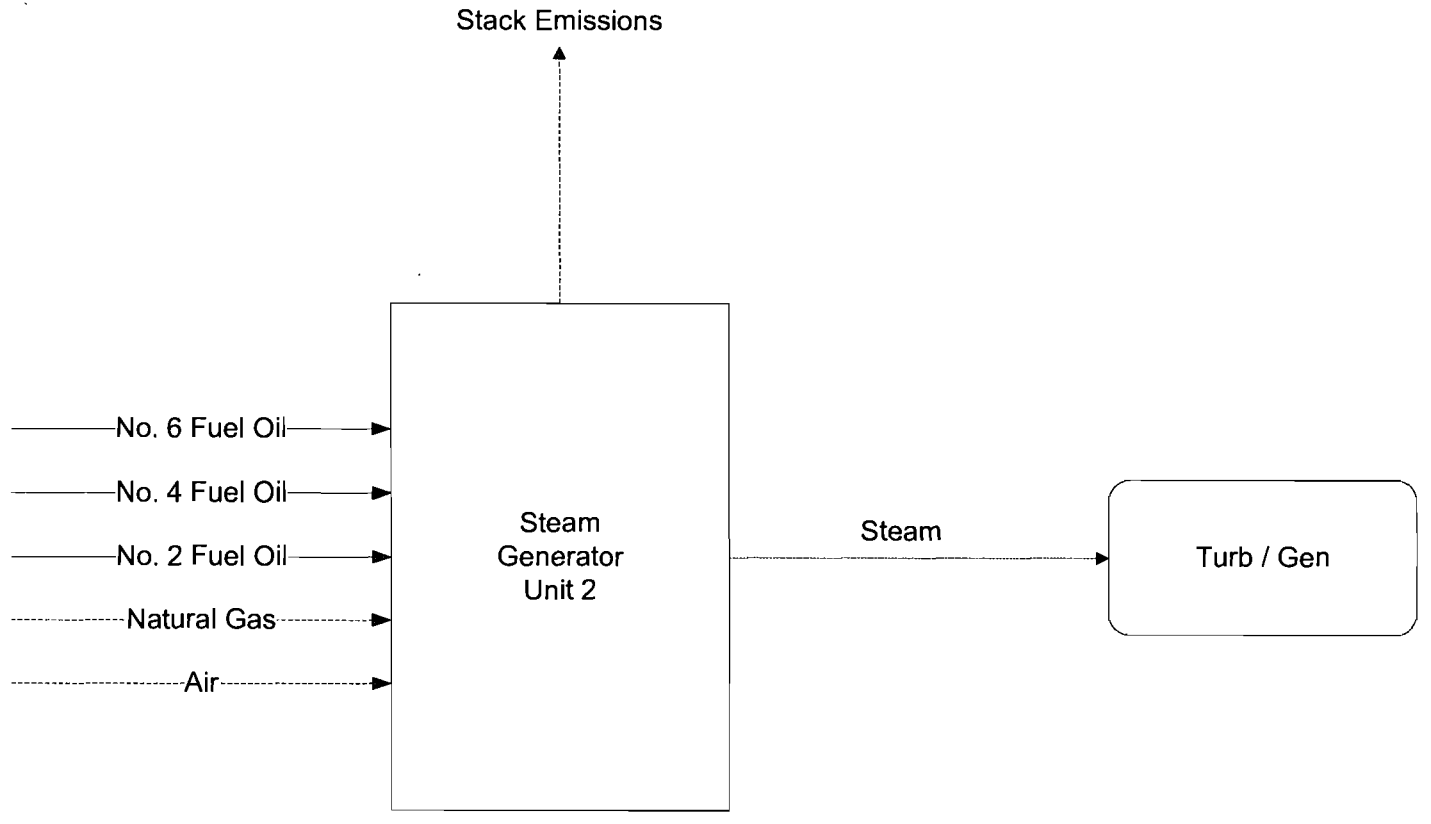
ATTACHMENT VB-EU2-F1.10

MAXIMUM POTENTIAL EMISSIONS FOR EMISSIONS-LIMITED POLLUTANTS
FOSSIL FUEL STEAM GENERATOR UNIT 2
VERO BEACH MUNICIPAL UTILITIES POWER PLANT

Pollutant	Unit 2	
	Oil Firing	Natural Gas Firing
Hours of Operation	8,760	8,760
SO_2		
Sulfur Dioxide (lb/hr) (Oil)= Fuel Sulfur Content (%)/100 x (MW_{SO2}/MW_S) x Fuel Consumption (lb/hr)		
Sulfur Dioxide (lb/hr) (Gas)= Fuel Sulfur Content (gr/100 ft^3)/100 x (MW_{SO2}/MW_S) x (1 lb/7,000 gr) x Fuel Consumption (ft^3/hr)		
Basis	BACT	AP-42
Sulfur Content, S (% or gr/100 ft^3)	1.5	1.0
MW SO_2	64	64
MW S	32	32
Fuel density (lb/gal)	8.22	--
Fuel Consumption (gal/hr or million ft^3/hr)	1620.0	0.241
Emission Rate (lb/hr)	399.5	0.7
Emission Rate (TPY)	1,749.8	3.0
PM		
Particulate Matter (lb/hr) (Oil)= AP-42 Factor (lb/10^3 gal) x Fuel Use (10^3 gal/hr)		
Particulate Matter (lb/hr) (Gas)= AP-42 Factor (lb/10^6 ft^3) x Fuel Use (10^6 ft^3/hr)		
Basis	BACT (SO_2)/AP-42	AP-42
Sulfur Content, S (%)	1.5	--
AP-42 Factor: (lb/10^3 gal or lb/million ft^3)	9.19 x S(%)+3.22	7.6
Fuel Consumption (1,000 gal/hr or million ft^3/hr)	1.620	0.241
Emission Rate (lb/hr)	27.5	1.8
Emission Rate (TPY)	120.7	8.0

ATTACHMENT VB-EU2-I1

PROCESS FLOW DIAGRAM



Attachment VB-EU2-I1
Steam Generator Unit 2 Process Flow Diagram
City of Vero Beach Municipal Power Plant - Vero Beach, Florida

Process Flow Legend
Solid/Liquid
Gas
Steam

Golder Associates

ATTACHMENT VB-EU2-I2

FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT VB-EU2-I2
FUEL ANALYSIS OR SPECIFICATION

Fuel	Density (lb/gal) [a]	Moisture (%)	Maximum % Weight Content			Heat Capacity
			Sulfur	Nitrogen	Ash	
Natural Gas	0.045 [b]	—	1 [c]	0.43 [d]	—	23,100 Btu/lb 1,030 Btu/ft^3
No. 2 Fuel Oil	7.1	0.01	0.25	0.02	<0.01	19,500 Btu/lb 138,500 Btu/gal
No. 4 Fuel Oil	7.6	0.05	0.7	0.18	<0.01	19,000 Btu/lb 144,000 Btu/gal
No. 6 Fuel Oil	8.15	0.20	1.5	0.32	0.05	18,400 Btu/lb 150,000 Btu/gal

[a] At 60 degrees Fahrenheit.
[b] Represented as lb/ft^3. Based on heat capacities presented.
[c] Represented as grains/100 ft^3.
[d] Atmospheric nitrogen.

ATTACHMENT VB-EU2-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT VB-EU2-I4
PROCEDURES FOR STARTUP AND SHUTDOWN

Startup of the fossil-fuel boilers begins when fuel (either natural gas or oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased and continues until the final burner gun is removed from service and the final induced-draft or forced-draft fan is removed from service.

Countermeasures, which may be taken in the event of excess emissions include, but are not limited to:

- Proper excess air adjustments
- Recognizing and removal of faulty burners
- Fuel oil temperature adjustments
- Proper and timely operation of boiler cleaning devices
- Removal of the unit from system-dispatch mode
- Reduction of unit megawatt load
- Stopping and restarting of boiler cleaning devices
- Lowering load rate
- Pressure rate changes

Knowledge of the appropriate countermeasures to take under an excess emissions condition is a part of the routine operator training for the engineers who operate the boilers. In addition, plant operations and supervisory staff are periodically given training. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, etc.

ATTACHMENT VB-EU2-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT VB-EU2-IV3

ALTERNATIVE METHODS OF OPERATION
FOSSIL FUEL STEAM GENERATOR UNIT 2

Unit 2 is permitted to burn natural gas, No. 2 fuel oil, No. 4 fuel oil, and No. 6 fuel oil. The maximum sulfur content of the fuel oil may not exceed 1.5 percent (by weight). Unit 2 can co-fire natural gas and fuel oil. The unit may operate continuously (i.e., 8,760 hours per year) on either fuel type. Natural gas and propane are used as ignitor fuels for initial startup of this unit.

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Fossil Fuel Steam Generator Unit 3

3. Emissions Unit Identification Number: **003**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A		**Sep 1, 1971**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☒ Acid Rain Unit

   ☒ CAIR Unit

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: **34** MW

11. Emissions Unit Comment:
    Emission unit is a fossil fuel-fired steam generator capable of firing natural gas or any combination of natural gas and Nos. 2, 4, and 6 fuel oil. Propane is used as an ignitor fuel.

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **417.0** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum Heat Input Rate based on natural gas firing only.** **Maximum Heat Input Rate for fuel oil firing is 410.0 MMBtu/hr.**	

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EU-3**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Exhausts through single stack.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **200** feet	7. Exit Diameter: **7.3** feet
8. Exit Temperature: **342°F**	9. Actual Volumetric Flow Rate: **116,375** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **561.4** North (km): **3,056.5**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **27/37/52** Longitude (DD/MM/SS) **80/22/33**	
15. Emission Point Comment: **Stack parameters based on Title V renewal application dated June 2007.** **Stack temperature and flow rate are based on natural gas firing. For oil firing, temperature and flow rate are 370 F and 185,500 acfm, respectively.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Natural-Gas Boilers >100 MMBtu/hr**		
2. Source Classification Code (SCC): **1-01-006-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **0.405**	5. Maximum Annual Rate: **3,548**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,030**
10. Segment Comment: **Maximum Hourly Rate based on heat input of 417 MMBtu/hr and 8,760 hours of operation.** **Maximum hourly rate = 417 MMBtu/hr /1,030 MMBtu/ MM ft3 = 0.405 MM ft3/hr.** **Maximum annual rate = 0.405 MM ft3/hr x 8,760 hr/yr = 3,548 MM ft3/yr.**		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Residual Oil No. 6 - Normal Firing**		
2. Source Classification Code (SCC): **1-01-004-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **2.733**	5. Maximum Annual Rate: **23,944**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Based on high heating value (HHV) of No. 6 fuel oil.** **Maximum hourly rate based on heat input of 410 MMBtu/hr and 8,760 hours of operation.** **Maximum hourly rate = 410 MMBtu/hr /150 MMBtu/1,000 gallons = 2,733 gallons/hr.** **Maximum annual rate = 2,733 gallons/hr x 8,760 hr/yr = 23,944x10^3 gallons/yr.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment **3** of **4**

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grades 1 and 2 Oil**		
2. Source Classification Code (SCC): **1-01-005-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **2.96**	5. Maximum Annual Rate: **25,392**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **138.5**
10. Segment Comment: **Based on high heating value (HHV) of Nos. 1 or 2 fuel oil. Maximum hourly rate based on 410 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 410 MMBtu/hr /138.5 MMBtu/1,000 gallon = 2,960 gallons/hr. Maximum annual rate = 2,960 gallons/hr x 8,760 hr/yr = 25,932x10^3 gallons/yr.**		

Segment Description and Rate: Segment **4** of **4**

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grade 4 Oil:Normal Firing**		
2. Source Classification Code (SCC): **1-01-005-04**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **2.847**	5. Maximum Annual Rate: **24,942**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **1.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **144**
10. Segment Comment: **Based on high heating value (HHV) of No. 4 fuel oil. Maximum hourly rate based on 410 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 410 MMBtu/hr /144 MMBtu/1,000 gallon = 2,847 gallons/hr. Maximum annual rate = 2,847 gallons/hr x 8,760 hr/yr = 24,942x10^3 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM10			NS
CO			NS
VOC			NS
SO2			EL
NOx			NS
H106			NS
HAPS			NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **123.0** lb/hour **224.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.3 lb/MMBtu** Reference: **Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
See Attachment VB-EU3-F1.10

11. Potential, Fugitive, and Actual Emissions Comment:
Potential emissions based on No. 6 fuel oil firing during soot blowing operation.

Potential emissions limited to 0.1 lb/MMBtu during normal operation.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.1 lb/MMBtu**	4. Equivalent Allowable Emissions: **41.0** lb/hour **179.6** tons/year
5. Method of Compliance: **EPA Methods 17, 5, 5B, or 5F**	
6. Allowable Emissions Comment (Description of Operating Method): **Rule 62-296.405(1)(b), F.A.C** **Allowable emissions based on normal operation. (VB-EU3-F1.10).** **Equivalent allowable emissions based on No. 6 oil firing.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.3 lb/MMBtu**	4. Equivalent Allowable Emissions: **123.0** lb/hour **67.3** tons/year
5. Method of Compliance: **EPA Methods 17, 5, 5B, 5F**	
6. Allowable Emissions Comment (Description of Operating Method): **Rule 62-296.700(3), F.A.C.** **Allowable emissions based on soot blowing or load changing operations.** **Equivalent allowable emissions based on maximum 3-hours in any 24-hour period of excess emissions for boiler cleaning (soot blowing) and load changing. (VB-EU3-F1.10).**	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1,127.5** lb/hour **4,939** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2.75 lb/MMBtu** Reference: **Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
See Attachment VB-EU3-F1.10

11. Potential, Fugitive, and Actual Emissions Comment:
Potential emissions based on No. 6 fuel oil firing.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2.75 lb/MMBtu**	4. Equivalent Allowable Emissions: **1,127.5** lb/hour **4,939** tons/year
5. Method of Compliance: **Fuel sampling and analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Rules 62-213.440 and 62-296.405(1)(c)1.j., F.A.C. (VB-EU3-F1.10). Equivalent allowable emissions based on fuel oil firing.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **3**

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-296.406(1), F.A.C and Permit No. 0610029-007-AV. Annual VE test required only if 400 or more hrs/yr of oil or oil/natural gas combination operatiion.**	

Visible Emissions Limitation: Visible Emissions Limitation **2** of **3**

1. Visible Emissions Subtype: **VE60**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **60** % Exceptional Conditions: **>60** % Maximum Period of Excess Opacity Allowed: **4 periods of 6** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-210.700(3), F.A.C. and Permit No. 0610029-007-AV. 60 percent opacity during load changing and boiler cleaning (soot blowing) for 3 hours in any 24-hour period. Annual VE test required only if 400 or more hrs/yr of oil or oil/natural gas combination operation.**	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **3** of **3**

1. Visible Emissions Subtype: **VE99**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Best operational practices**	
5. Visible Emissions Comment: **Excess emissions for startup, shutdown or malfunction. Excess emission for load changes limited to 2hrs/24hrs. Permit No. 0610029-007-AV. Rule 62-296.700(1), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor **1** of **5**

1. Parameter Code: **VE**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **United Sciences, Inc.** Model Number: **550** Serial Number: **392167**	
5. Installation Date: **Nov 02, 2000**	6. Performance Specification Test Date: **Nov 02, 2000**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) requirement.**	

Continuous Monitoring System: Continuous Monitor **2** of **5**

1. Parameter Code: **O2**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Amatek-Thermox** Model Number: **WDG-HP** Serial Number: **10203112B-2**	
5. Installation Date: **Nov 07, 2000**	6. Performance Specification Test Date: **Dec 30, 2000**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) requirement.**	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **3** of **5**

1. Parameter Code: **EM**	2. Pollutant(s): **NOx**
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Thermo Environmental** Model Number: **42C**	Serial Number: **42C-68771-361**
5. Installation Date: **Apr 01, 2001**	6. Performance Specification Test Date: **Jun 04, 2001**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) requirement.**	

Continuous Monitoring System: Continuous Monitor **4** of **5**

1. Parameter Code: **OTHER**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Micro Motion** Model Number: **F200SR342SU**	Serial Number: **900379**
5. Installation Date: **Jan 02, 1997**	6. Performance Specification Test Date: **Jan 02, 1997**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) requirement. Continuous monitoring of fuel oil flow.**	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **5** of **5**

1. Parameter Code: **OTHER**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Rosemount** Model Number: **1151DP4E12B1**	Serial Number: **1313563**
5. Installation Date: **Feb 28, 1991**	6. Performance Specification Test Date: **Nov 23, 1994**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) requirement. Continuous monitoring of natural gas flow.**	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU3-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU3-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU3-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: **8/4/2011 – NOx RATA, VE, NOx**
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ Attached, Document ID: _____ ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: _____ ☐ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☒ Attached, Document ID: **VB-EU1-IV1**
2.	Compliance Assurance Monitoring: ☐ Attached, Document ID: _____ ☒ Not Applicable
3.	Alternative Methods of Operation: ☒ Attached, Document ID: **VB-EU3-IV3** ☐ Not Applicable
4.	Alternative Modes of Operation (Emissions Trading): ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT VB-EU3-F1.10

EMISSIONS CALCULATIONS

ATTACHMENT VB-EU3-F1.10

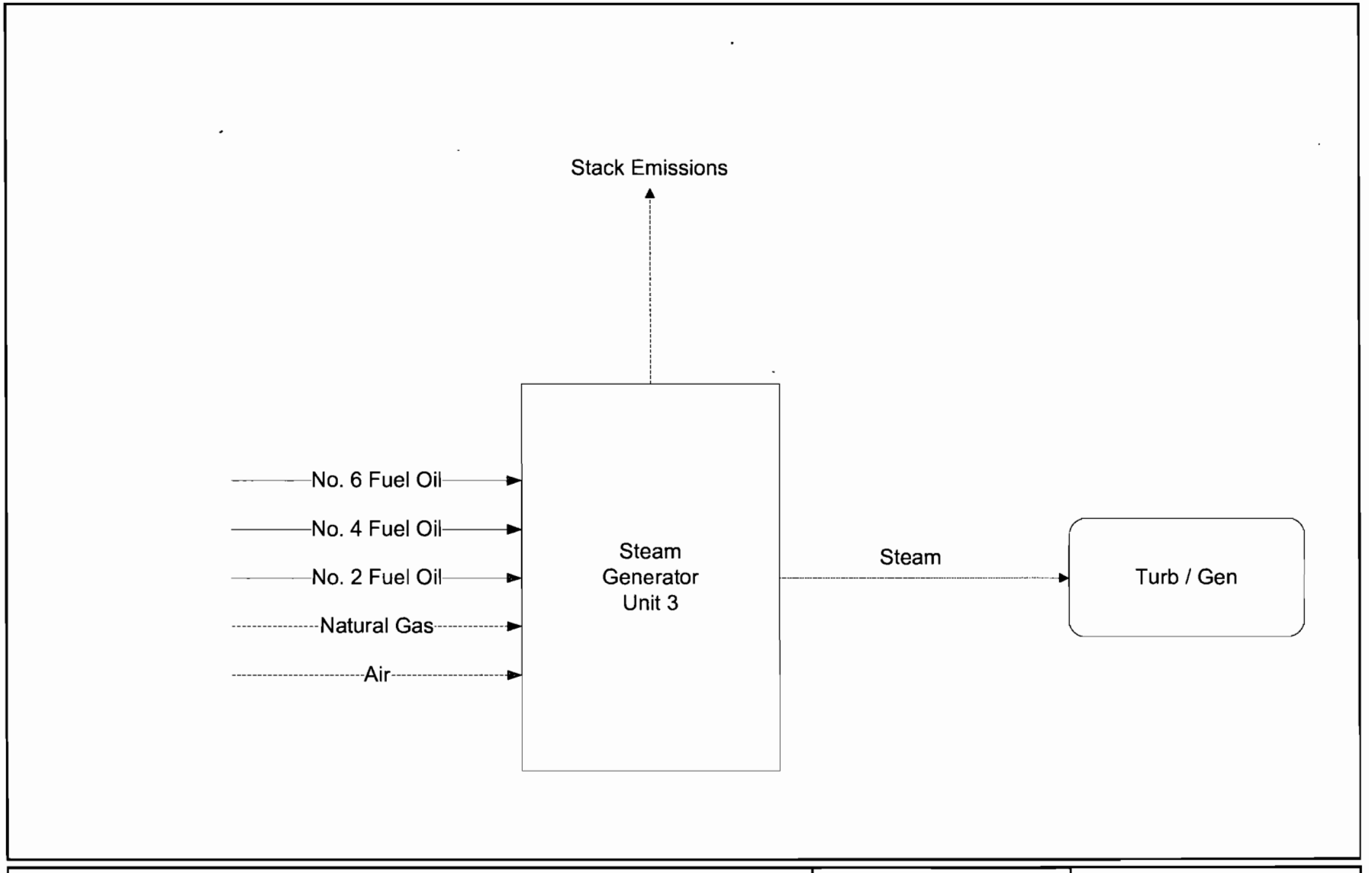
MAXIMUM POTENTIAL EMISSIONS FOR EMISSIONS-LIMITED POLLUTANTS
FOSSIL FUEL STEAM GENERATOR UNIT 3
VERO BEACH MUNICIPAL UTILITIES POWER PLANT

Pollutant	Unit 3	
	Oil Firing	Natural Gas Firing
Hours of Operation	8,760	8,760
SO_2		
Sulfur Dioxide (lb/hr) (Oil)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Sulfur Dioxide (lb/hr) (Gas)= Fuel sulfur content (Percent; gr/ 100 cf) x 2 (64 MW SO_2/32 MW S) x Fuel Consumption (Fuel units/hr)		
Basis	DEP Rules	1 gr S/100 cf
EF (lb/MMBtu)	2.75	
HIR (MMBtu/hr)	410	417
Sulfur content (gr/100 cf)		1
Fuel consumptiom (100 cf/hr)		4050.00
Emission Rate (lb/hr)	1127.5	1.2
Emission Rate (TPY)	4,938.5	5.1
PM		
Particulate Matter (lb/hr) (Oil)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Particulate Matter (lb/hr) (Gas)= EF (lb/fuel unit) x Fuel Consumption (fuel unit)		
Basis (1)	DEP Rules	AP-42
EF (lb/MMBtu) or (lb/MMcf)	0.3	7.6
EF (lb/MMBtu) (Oil; normal/sootblowing; annual)	0.125	
HIR (MMBtu/hr)	410	417
Fuel consumptiom (MMcf/hr)		0.4
Emission Rate (lb/hr)	123.0	3.1
Emission Rate (TPY)	224.5	13.5

(1) FDEP Rule 62-296.405(1)(b) and 62-210.7(3); 0.3 and 0.1 lb/MMBtu for soot-blowing and normal operations, respectively; EPA, 1998, AP-42, Table 1.4-2.

ATTACHMENT VB-EU3-I1

PROCESS FLOW DIAGRAM



Attachment VB-EU3-I1
Steam Generator Unit 3 Process Flow Diagram
City of Vero Beach Municipal Power Plant - Vero Beach, Florida

Process Flow Legend
Solid/Liquid
Gas
Steam

Golder Associates

Y:\Projects\2011\113-87747 CoVB TVRen\Final\Att\VB all flow diagrams.vsd

ATTACHMENT VB-EU3-I2

FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT VB-EU3-I2
FUEL ANALYSIS OR SPECIFICATION

Fuel	Density (lb/gal) [a]	Moisture (%)	Maximum % Weight Content			Heat Capacity
			Sulfur	Nitrogen	Ash	
Natural Gas	0.045 [b]	—	1 [c]	0.43 [d]	—	23,100 Btu/lb 1,030 Btu/ft^3
No. 2 Fuel Oil	7.1	0.01	0.25	0.02	<0.01	19,500 Btu/lb 138,500 Btu/gal
No. 4 Fuel Oil	7.6	0.05	0.7	0.18	<0.01	19,000 Btu/lb 144,000 Btu/gal
No. 6 Fuel Oil	8.15	0.20	2.5	0.32	0.05	18,400 Btu/lb 150,000 Btu/gal

[a] At 60 degrees Fahrenheit.
[b] Represented as lb/ft^3. Based on heat capacities presented.
[c] Represented as grains/100 ft^3.
[d] Atmospheric nitrogen.

ATTACHMENT VB-EU3-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT VB-EU3-I4
PROCEDURES FOR STARTUP AND SHUTDOWN

Startup of the fossil-fuel boilers begins when fuel (either natural gas or oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased and continues until the final burner gun is removed from service and the final induced-draft or forced-draft fan is removed from service.

Excess emissions may be detected during all modes of boiler operation by any one of several continuous emission monitors. Continuous monitors are currently in place for NO_x and opacity. An audible and visual alarm is activated whenever permitted values for any of the above parameters are approached.

Countermeasures, which may be taken in the event of excess emissions include, but are not limited to:

- Proper excess air adjustments
- Recognizing and removal of faulty burners
- Fuel oil temperature adjustments
- Proper and timely operation of boiler cleaning devices
- Removal of the unit from system-dispatch mode
- Reduction of unit megawatt load
- Stopping and restarting of boiler cleaning devices
- Lowering load rate
- Pressure rate changes

Knowledge of the appropriate countermeasures to take under an excess emissions condition is a part of the routine operator training for the engineers who operate the boilers. In addition, plant operations and supervisory staff are periodically given training. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, etc.

ATTACHMENT VB-EU3-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT VB-EU3-IV3

ALTERNATIVE METHODS OF OPERATION
FOSSIL FUEL STEAM GENERATOR UNIT 3

Unit 3 is permitted to burn natural gas, No. 2 fuel oil, No. 4 fuel oil, and No. 6 fuel oil. Unit 3 can co-fire natural gas and fuel oil. The unit may operate continuously (i.e., 8,760 hours per year) on either fuel type. Natural gas and propane are used as ignitor fuels for initial startup of this unit.

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Fossil Fuel Steam Generator Unit 4

3. Emissions Unit Identification Number: **004**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A		**Jun 1, 1976**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☒ Acid Rain Unit

   ☒ CAIR Unit

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: **56** MW

11. Emissions Unit Comment:
    Emission unit is a fossil fuel-fired steam generator capable of firing natural gas or any combination of natural gas and Nos. 2, 4, and 6 fuel oil. Propane is used as an ignitor fuel.

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

B. EMISSIONS UNIT CAPACITY INFORMATION
(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **685.0** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum Heat Input Rate based on natural gas firing only.** **Maximum Heat Input Rate for fuel oil firing is also 685.0 MMBtu/hr.**	

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EU-4**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Exhausts through single stack.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **200** feet	7. Exit Diameter: **7** feet
8. Exit Temperature: **283**°F	9. Actual Volumetric Flow Rate: **179,475** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **561.4** North (km): **3,056.5**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **27/37/52** Longitude (DD/MM/SS) **80/22/33**	
15. Emission Point Comment: **Stack parameters based on Title V renewal application dated June 2007.** **Stack temperature and flow rate are based on natural gas firing. For oil firing, temperature and flow rate are 306 F and 184,531 acfm, respectively.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Natural-Gas Boilers >100 MMBtu/hr**		
2. Source Classification Code (SCC): **1-01-006-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **0.665**	5. Maximum Annual Rate: **5,826**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,030**
10. Segment Comment: **Based on high heating value (HHV) of natural gas. Maximum Hourly Rate based on heat input of 685 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 685 MMBtu/hr /1,030 MMBtu/ MM ft3 = 0.665 MM ft3/hr. Maximum annual rate = 0.665 MM ft3/hr x 8,760 hr/yr = 5,826 MM ft3/yr.**		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Residual Oil No. 6 - Normal Firing**		
2. Source Classification Code (SCC): **1-01-004-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **4.567**	5. Maximum Annual Rate: **40,004**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.7**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Based on high heating value (HHV) of No. 6 fuel oil. Maximum hourly rate based on heat input of 685.0 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 685 MMBtu/hr /150 MMBtu/1,000 gallons = 4,567 gallons/hr. Maximum annual rate = 4,567 gallons/hr x 8,760 hr/yr = 40,004x10^3 gallons/yr.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment **3** of **4**

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grades 1 and 2 Oil**		
2. Source Classification Code (SCC): ***1-01-005-01***	3. SCC Units: ***1,000 gallons burned***	
4. Maximum Hourly Rate: **4.946**	5. Maximum Annual Rate: **43,327**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.25**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **138.5**
10. Segment Comment: **Based on high heating value (HHV) of Nos. 1 or 2 fuel oil. Maximum hourly rate based on 685 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 685 MMBtu/hr /138.5 MMBtu/1,000 gallon = 4,946 gallons/hr. Maximum annual rate = 4,946 gallons/hr x 8,760 hr/yr = 43,327x10^3 gallons/yr.**		

Segment Description and Rate: Segment **4** of **4**

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Distillate Oil; Grade 4 Oil:Normal Firing**		
2. Source Classification Code (SCC): **1-01-005-04**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **4.757**	5. Maximum Annual Rate: **41,671**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.7**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **144**
10. Segment Comment: **Based on high heating value (HHV) of No. 4 fuel oil. Maximum hourly rate based on 685 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 685 MMBtu/hr /144 MMBtu/1,000 gallon = 4,757 gallons/hr. Maximum annual rate = 4,757 gallons/hr x 8,760 hr/yr = 41,671x10^3 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM10			NS
CO			NS
VOC			NS
SO2			EL
NOx			EL
H106			NS
HAPS			NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **68.5** lb/hour **300** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.1 lb/MMBtu** Reference: **40 CFR 60 Subpart D & Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU4-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on No.6 fuel oil firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.1 lb/MMBtu**	4. Equivalent Allowable Emissions: **68.5** lb/hour **300** tons/year
5. Method of Compliance: **EPA Methods 5 or 17**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 60 Subpart D.** **Equivalent allowable emissions based on fuel oil firing. (VB-EU4-F1.10).** **Opacity limited to 20% except for one 6-minute period per hour of not more than 27%.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **548** lb/hour **2,400** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.8 lb/MMBtu** Reference: **40 CFR 60 Subpart D & Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU4-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on No.6 fuel oil firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.8 lb/MMBtu**	4. Equivalent Allowable Emissions: **548** lb/hour **2,400** tons/year
5. Method of Compliance: **EPA Method 6 or 6C; Fuel oil analysis if oil firing< 400hrs/yr.**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 60 Subpart D.** **Equivalent allowable emissions based on fuel oil firing. (VB-EU4-F1.10).**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **NOx**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **205.5** lb/hour **900.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.3 lb/MMBtu** Reference: **40 CFR 60 Subpart D & Permit No. 0610029-007-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU4-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on No.6 fuel oil firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.2 lb/MMBtu**	4. Equivalent Allowable Emissions: **137** lb/hour **600.1** tons/year
5. Method of Compliance: **EPA Method 7, 7A, 7C, 7D or 7E.**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 60 Subpart D.** **Equivalent allowable emissions based on natural gas firing. (VB-EU4-F1.10).**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.3 lb/MMBtu**	4. Equivalent Allowable Emissions: **205.5** lb/hour **900.1** tons/year
5. Method of Compliance: **EPA Method 7, 7A, 7C, 7D or 7E.**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 60 Subpart D.** **Equivalent allowable emissions based on fuel oil firing. (VB-EU4-F1.10).**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **1**

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **27** % Maximum Period of Excess Opacity Allowed: **6** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **40 CFR 60 Subpart D and Permit No. 0610029-007-AV. Annual VE test not required if only natural gas is burned or if < 400 hrs/yr of oil or oil/natural gas combination operatiion.**	

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor **1** of **5**

1. Parameter Code: **VE**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **United Sciences, Inc.** Model Number: **550** Serial Number: **392166**	
5. Installation Date: **Oct 25, 2000**	6. Performance Specification Test Date: **Oct 25, 2000**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) and 40 CFR 60 Subpart D requirement.**	

Continuous Monitoring System: Continuous Monitor **2** of **5**

1. Parameter Code: **O2**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Amatek-Thermox** Model Number: **WDG-HP** Serial Number: **10203464**	
5. Installation Date: **Oct 25, 2000**	6. Performance Specification Test Date: **Dec 30, 2000**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) and 40 CFR 60 Subpart D requirement.**	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **3** of **5**

1. Parameter Code: **EM**	2. Pollutant(s): **NOx**
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Thermo Environmental** Model Number: **42C** Serial Number: **42C-62215-334**	
5. Installation Date: **Jan 01, 1999**	6. Performance Specification Test Date: **Mar 05, 1999**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) and 40 CFR 60 Subpart D requirement.**	

Continuous Monitoring System: Continuous Monitor **4** of **5**

1. Parameter Code: **OTHER**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Micro Motion** Model Number: **F200SR342CRAUEZZZZ** Serial Number: **760921**	
5. Installation Date: **Jan 01, 1999**	6. Performance Specification Test Date: **Jan 01, 1999**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) requirement. Continuous monitoring of fuel oil flow.**	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **5** of **5**

1. Parameter Code: **OTHER**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Rosemount** Model Number: **MAZCA0010AA00NAB**	Serial Number: **59370**
5. Installation Date: **Dec 15, 1991**	6. Performance Specification Test Date: **Nov 17, 1994**
7. Continuous Monitor Comment: **40 CFR 75 (Acid Rain) requirement. Continuous monitoring of natural gas flow. Updated gas fuel flow system on 3/24/06.**	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU4-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU4-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU4-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: **8/4/2011 – NOx RATA, VE, NOx**
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: ☒ Attached, Document ID: **VB-EU1-IV1**
2. Compliance Assurance Monitoring: ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation: ☒ Attached, Document ID: **VB-EU4-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading): ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT VB-EU4-F1.10

EMISSIONS CALCULATIONS

ATTACHMENT VB-EU4-F1.10

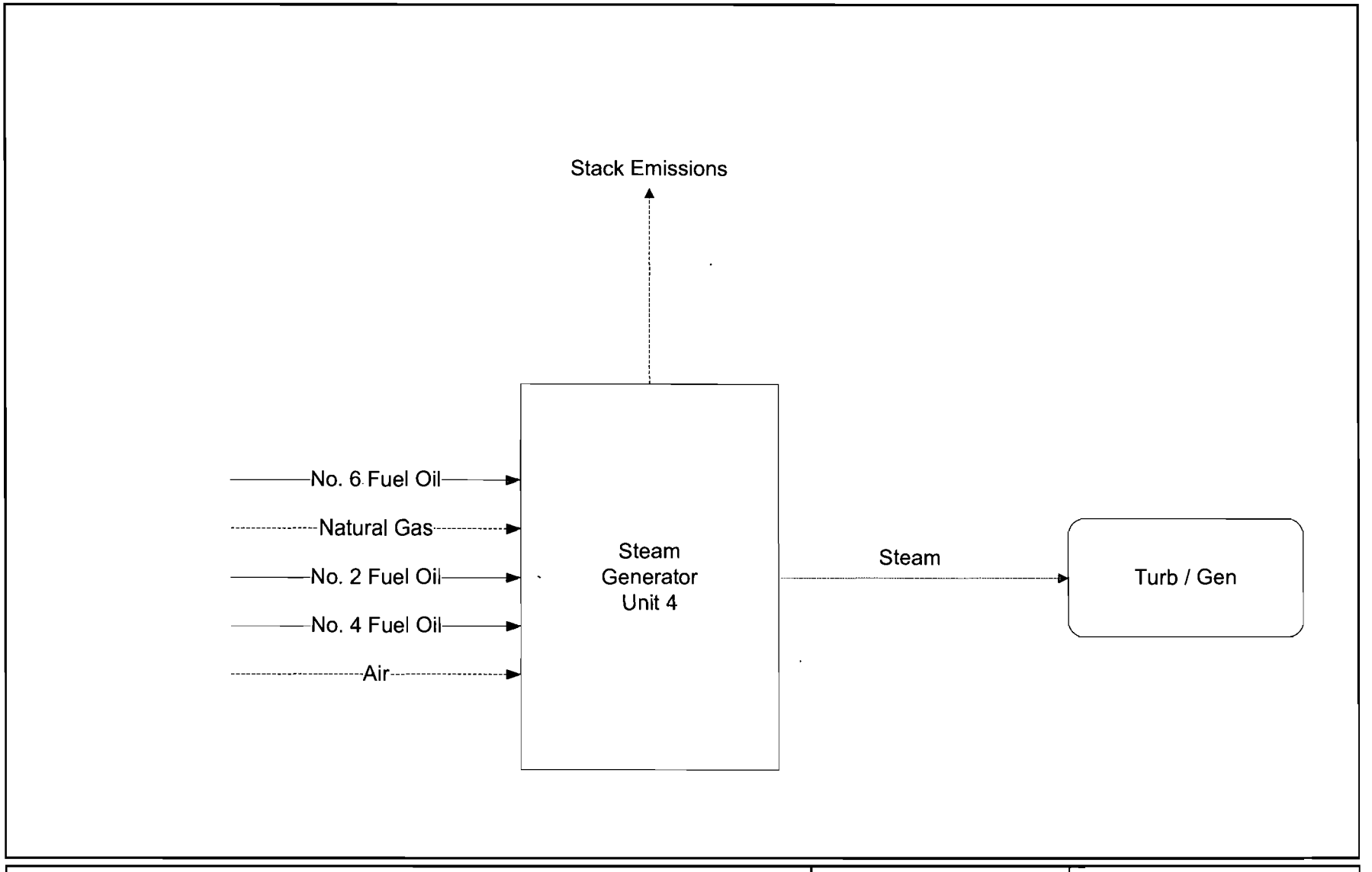
MAXIMUM POTENTIAL EMISSIONS FOR EMISSIONS-LIMITED POLLUTANTS
FOSSIL FUEL STEAM GENERATOR UNIT 4
VERO BEACH MUNICIPAL UTILITIES POWER PLANT

Pollutant	Unit 4	
	Oil Firing	Natural Gas Firing
Hours of Operation	8,760	8,760
SO_2		
Sulfur Dioxide (lb/hr) (Oil)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Sulfur Dioxide (lb/hr) (Gas)= Fuel sulfur content (Percent; gr/ 100 cf) x 2 (64 MW SO2/32 MW S) x Fuel Consumption (Fuel units/hr)		
Basis	40 CFR 60 Subpart D	1 gr S/100 cf
EF (lb/MMBtu)	0.80	
HIR (MMBtu/hr)	685	685
Sulfur content (gr/100 cf)		1
Fuel consumptiom (100 cf/hr)		6,650
Emission Rate (lb/hr)	548.0	1.9
Emission Rate (TPY)	2,400	8.3
PM		
Particulate Matter (lb/hr) (Oil)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Particulate Matter (lb/hr) (Gas)= EF (lb/MMcf) x Fuel Consumption (MMcf/hr)		
Basis (1)	40 CFR 60 Subpart D	AP-42
EF (lb/MMBtu) or (lb/MMcf)	0.1	7.6
HIR (MMBtu/hr)	685	685
Fuel consumptiom (MMcf/hr)		0.665
Emission Rate (lb/hr)	68.5	5.1
Emission Rate (TPY)	300.0	22.1
NOx		
Nitrogen Oxides (lb/hr) (Oil)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Nitrogen Oxides (lb/hr) (Gas)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Basis (1)	40 CFR 60 Subpart D	40 CFR 60 Subpart D
EF (lb/MMBtu) or (lb/MMcf)	0.3	0.2
HIR (MMBtu/hr)	685	685
Emission Rate (lb/hr)	205.5	137.0
Emission Rate (TPY)	900.1	600.1

(1) 40 CFR 60 Subpart D; AP-42 Table 1.4-2.

ATTACHMENT VB-EU4-I1

PROCESS FLOW DIAGRAM



Attachment VB-EU4-I1
Steam Generator Unit 4 Process Flow Diagram
City of Vero Beach Municipal Power Plant - Vero Beach, Florida

Process Flow Legend
Solid/Liquid
Gas
Steam

Golder Associates

ATTACHMENT VB-EU4-I2

FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT VB-EU4-I2
FUEL ANALYSIS OR SPECIFICATION

Fuel	Density (lb/gal) [a]	Moisture (%)	Maximum % Weight Content			Heat Capacity
			Sulfur	Nitrogen	Ash	
Natural Gas	0.045 [b]	—	1 [c]	0.43 [d]	—	23,100 Btu/lb 1,030 Btu/ft^3
No. 2 Fuel Oil	7.1	0.01	0.25	0.02	<0.01	19,500 Btu/lb 138,500 Btu/gal
No. 4 Fuel Oil	7.6	0.05	0.7	0.18	<0.01	19,000 Btu/lb 144,000 Btu/gal
No. 6 Fuel Oil	8.15	0.20	0.7	0.32	0.05	18,400 Btu/lb 150,000 Btu/gal

[a] At 60 degrees Fahrenheit.
[b] Represented as lb/ft^3. Based on heat capacities presented.
[c] Represented as grains/100 ft^3.
[d] Atmospheric nitrogen.

ATTACHMENT VB-EU4-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT VB-EU4-I4
PROCEDURES FOR STARTUP AND SHUTDOWN

Startup of the fossil-fuel boilers begins when fuel (either natural gas or oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased and continues until the final burner gun is removed from service and the final induced-draft or forced-draft fan is removed from service.

Excess emissions may be detected during all modes of boiler operation by any one of several continuous emission monitors. Continuous monitors are currently in place for NO_x, SO_2, and opacity. An audible and visual alarm is activated whenever permitted values for any of the above parameters are approached.

Countermeasures, which may be taken in the event of excess emissions include, but are not limited to:

- Proper excess air adjustments
- Recognizing and removal of faulty burners
- Fuel oil temperature adjustments
- Proper and timely operation of boiler cleaning devices
- Removal of the unit from system-dispatch mode
- Reduction of unit megawatt load
- Stopping and restarting of boiler cleaning devices
- Lowering load rate
- Pressure rate changes

Knowledge of the appropriate countermeasures to take under an excess emissions condition is a part of the routine operator training for the engineers who operate the boilers. In addition, plant operations and supervisory staff are periodically given training. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, etc.

ATTACHMENT VB-EU4-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT VB-EU4-IV3

ALTERNATIVE METHODS OF OPERATION
FOSSIL FUEL STEAM GENERATOR UNIT 4

Unit 4 is permitted to burn either natural gas, or a combination of natural gas and No. 2 fuel oil, No. 4 fuel oil, or No. 6 fuel oil. The unit may operate continuously (i.e., 8,760 hours per year). Natural gas and propane are used as ignitor fuels for initial startup of this unit.

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:

   Combined-Cycle Gas Turbine Unit 5

3. Emissions Unit Identification Number: **005**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A		**Dec 1, 1992**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☒ Acid Rain Unit

   ☒ CAIR Unit

9. Package Unit:
   Manufacturer: **GE** Model Number: **PG 6541(B), Frame 6**

10. Generator Nameplate Rating: **38** MW

11. Emissions Unit Comment:
    Emission unit is a natural gas or No. 2 fuel oil-fired combined-cycle gas turbine with a heat recovery steam generator (HRSG). An evaporative cooling system is installed at the compressor inlet. The system cools the inlet air to the turbine, which increases turbine output and decreases heat rate.

EMISSIONS UNIT INFORMATION
Section [5]
Combined-Cycle Gas Turbine Unit 5

Emissions Unit Control Equipment/Method: Control **1** of **2**

1. Control Equipment/Method Description: **Dry Low-NOx burners (Natural gas firing)**
2. Control Device or Method Code: **25**

Emissions Unit Control Equipment/Method: Control **2** of **2**

1. Control Equipment/Method Description: **Water Injection (Oil firing)**
2. Control Device or Method Code: **28**

Emissions Unit Control Equipment/Method: Control _____ of _____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control _____ of _____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **455** million Btu/hr **(LHV)**	
4. Maximum Incineration Rate:	pounds/hr tons/day
5. Requested Maximum Operating Schedule:	
24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum Heat Input Rate based on No.2 fuel oil firing.** **Maximum Heat Input Rate for natural gas firing is 414 MMBtu/hr.** **Heat input rates are based on the lower heating value (LHV) of the fuels and at ISO standard day conditions (101.3 kPa pressure, inlet temperature of 25°F, 60 percent RH).** **Evaporative cooling system can be operated at any time Unit 5 is operating.**	

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EU-5**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Emission unit can exhaust through either a by-pass stack (simple-cycle mode) or heat recovery steam generator (HRSG) stack (combined-cycle mode).**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **125** feet	7. Exit Diameter: **11** feet
8. Exit Temperature: **410**°F	9. Actual Volumetric Flow Rate: **468,000** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **561.4** North (km): **3,056.5**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **27/37/52** Longitude (DD/MM/SS) **80/22/33**	
15. Emission Point Comment: **Stack parameters based on Title V renewal application dated June 2007.** **The turbine exhaust may also be vented through a bypass stack when operating in simple-cycle mode.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **Internal Combustion Engines; Electric Generation; Natural Gas; Turbine**		
2. Source Classification Code (SCC): **2-01-002-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **0.44**	5. Maximum Annual Rate: **3,858**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **940**
10. Segment Comment: **Based on lower heating value (LHV) of fuel and ISO standard day conditions. Maximum Hourly Rate based on heat input of 414 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 414 MMBtu/hr /940 MMBtu/MM ft3 (LHV) = 0.44 MM ft3/hr. Maximum annual rate = 0.44 MM ft3/hr x 8,760 hr/yr = 3,858 MM ft^3/yr.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **Internal Combustion Engines; Electric Generation; Distillate Oil (Diesel); Turbine**		
2. Source Classification Code (SCC): **2-01-001-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **3.5**	5. Maximum Annual Rate: **10,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.25**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **130**
10. Segment Comment: **Based on lower heating value (LHV) of fuel and ISO standard day conditions. Maximum hourly rate based on heat input of 455 MMBtu/hr and 8,760 hours of operation. Maximum hourly rate = 455 MMBtu/hr /130 MMBtu/1,000 gallons (LHV) = 3,500 gallons/hr. Maximum annual No.2 oil consumption limited to 10,000,000 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
PM10			EL
CO			EL
VOC			EL
SO2			EL
NOx	025, 028	025, 028	EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **11.4** lb/hour **23.7** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.025 lb/MMBtu** Reference: **Permit No. 0610029-007-AV / 0610029-004-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
See Attachment VB-EU5-F1.10

11. Potential, Fugitive, and Actual Emissions Comment:
Potential emissions based on No.6 fuel oil firing.
Potential annual emissions based on fuel oil firing for 33 percent of the annual capacity factor and natural gas firing for 67 percent of the annual capacity factor.
Potential emissions based on natural gas firing limited to 0.006 lb/MMBtu.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.006 lb/MMBtu**	4. Equivalent Allowable Emissions: **2.5** lb/hour **10.9** tons/year
5. Method of Compliance: **EPA Methods 5 or 17 (fuel oil firing only)**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing. Permit No. 0610029-007-AV / 0610029-004-AC.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.025 lb/MMBtu**	4. Equivalent Allowable Emissions: **11.4** lb/hour **16.4** tons/year
5. Method of Compliance: **EPA Method 5 or 17 (fuel oil firing)**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on fuel oil firing. Permit No. 0610029-007-AV / 0610029-004-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **124.3** lb/hour **178.2** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **Use of Natural Gas or 0.25 % S No.2 fuel oil** Reference: **Permit No. 0610029-007-AV/0610029-004-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU5-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on fuel oil firing. Potential annual emissions based on fuel oil firing for 33 percent of the annual capacity factor and natural gas firing for 67 percent of the annual capacity factor.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **Natural gas firing**	4. Equivalent Allowable Emissions: **1.3** lb/hour **5.5** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing.** **Permit No. 0610029-007-AV / 0610029-004-AC.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.25 % sulfur No. 2 fuel oil**	4. Equivalent Allowable Emissions: **124.3** lb/hour **178.2** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on fuel oil firing.** **Permit No 0610029-007-AV / 0610029-004-AC**	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **NOx**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **79** lb/hour **243.7** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **42 ppmvd at 15 percent O_2** Reference: **Permit No. 0610029-007-AV/0610029-004-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
See Attachment VB-EU5-F1.10

11. Potential, Fugitive, and Actual Emissions Comment:
Potential emissions based on fuel oil firing.
Potential annual emissions based on fuel oil firing for 33 percent of the annual capacity factor and natural gas firing for 67 percent of the annual capacity factor.
Potential emissions based on natural gas firing limited to 25 ppmvd at 15 percent O_2.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **25 ppmvd at 15 percent O_2**	4. Equivalent Allowable Emissions: **44.3** lb/hour **194** tons/year
5. Method of Compliance: **Annual compliance test using EPA Method 20.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing.** **Permit No. 0610029-007-AV / 0610029-004-AC.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **BACT**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **42 ppmvd at 15 percent O_2**	4. Equivalent Allowable Emissions: **79** lb/hour **114.2** tons/year
5. Method of Compliance: **Annual compliance test using EPA Method 20.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on fuel oil firing.** **Permit No. 0610029-007-AV / 06100029-004-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **10.3** lb/hour **42.1** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.0226 lb/MMBtu** Reference: **Permit No. 0610029-007-AV/0610029-004-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
See Attachment VB-EU5-F1.10

11. Potential, Fugitive, and Actual Emissions Comment:
Potential emissions based on fuel oil firing.
Potential annual emissions based on fuel oil firing for 33 percent of the annual capacity factor and natural gas firing for 67 percent of the annual capacity factor.
Potential emissions based on natural gas firing limited to 0.0224 lb/MMBtu.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a *numerical emissions limitation.*

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0224 lb/MMBtu**	4. Equivalent Allowable Emissions: **9.3** lb/hour **40.6** tons/year
5. Method of Compliance: **EPA Method 10 (permit renewal)**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing.** **Permit No. 0610029-007-AV / 0610029-004-AC.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0226 lb/MMBtu**	4. Equivalent Allowable Emissions: **10.3** lb/hour **14.9** tons/year
5. Method of Compliance: **EPA Method 10 (permit renewal)**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on fuel oil firing.** **Permit No. 0610029-007-AV / 06100029-004-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **5.1** lb/hour **21** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.0113 lb/MMBtu** Reference: **Permit No. 0610029-007-AV/0610029-004-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Attachment VB-EU5-F1.10**	
11. Potential, Fugitive, and Actual Emissions Comment: **Potential emissions based on fuel oil firing.** **Potential annual emissions based on fuel oil firing for 33 percent of the annual capacity factor and natural gas firing for 67 percent of the annual capacity factor.** **Potential emissions based on natural gas firing limited to 0.0112 lb/MMBtu.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0112 lb/MMBtu**	4. Equivalent Allowable Emissions: **4.6** lb/hour **20.3** tons/year
5. Method of Compliance: **CO Test**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing.** **Permit No. 0610029-007-AV / 0610029-004-AC.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0113 lb/MMBtu**	4. Equivalent Allowable Emissions: **5.1** lb/hour **7.4** tons/year
5. Method of Compliance: **CO Test**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on fuel oil firing.** **Permit No. 0610029-007-AV / 06100029-004-AC.**	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Annual VE test using EPA Method 9**	
5. Visible Emissions Comment: **Permit No. 0610029-007-AV / 0610029-004-AC.**	

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor **1** of **6**

1. Parameter Code: **OTHER**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Rosemount** Model Number: **1151DP4E22B2** Serial Number: **1329394**	
5. Installation Date: **Jun 01, 1992**	6. Performance Specification Test Date: **Nov 23, 1994**
7. Continuous Monitor Comment: **Continuous monitoring of fuel gas flow. CEM required pursuant to 40 CFR part 75.**	

Continuous Monitoring System: Continuous Monitor **2** of **6**

1. Parameter Code: **O2**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Amatek-Thermox** Model Number: **WDG-HP-Humox** Serial Number: **10203112A**	
5. Installation Date: **Nov 01, 2000**	6. Performance Specification Test Date: **Dec 20, 2000**
7. Continuous Monitor Comment: **CEM required pursuant to 40 CFR part 75 for dilution with NOx monitors.**	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **3** of **6**

1. Parameter Code: **EM**	2. Pollutant(s): **NOx**
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Thermo Environmental** Model Number: **42C**	Serial Number: **42C-62319-335**
5. Installation Date: **Jan 01, 1999**	6. Performance Specification Test Date: **Jan 12, 1999**
7. Continuous Monitor Comment: **CEM required pursuant to 40 CFR part 75.**	

Continuous Monitoring System: Continuous Monitor **4** of **6**

1. Parameter Code: **OTHER**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Micro Motion** Model Number: **F200SR342SU**	Serial Number: **900541**
5. Installation Date: **Mar 22, 1995**	6. Performance Specification Test Date: **Feb 03, 1995**
7. Continuous Monitor Comment: **CEM required pursuant to 40 CFR part 75.**	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **5** of **6**

1. Parameter Code: **WTF**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Hoffer Flow Controls, Inc.** Model Number: **HTM-12-2-MT6** Serial Number: **48719**	
5. Installation Date: **Jan 01, 1994**	6. Performance Specification Test Date: **Jan 01, 1994**
7. Continuous Monitor Comment: **Continuous monitoring of water flow. CEM required pursuant to 40 CFR part 75.**	

Continuous Monitoring System: Continuous Monitor **6** of **6**

1. Parameter Code: **OTHER**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **Roper Pump Company** Model Number: **Type 11** Serial Number: **G138556**	
5. Installation Date: **Jan 01, 1994**	6. Performance Specification Test Date: **Jan 01, 1994**
7. Continuous Monitor Comment: **Conitnuous monitoring of water flow. CEM required pursuant to 40 CFR part 75. Continuous monitoring of fuel oil flow.**	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU5-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU5-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU5-I3** ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **VB-EU5-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: **8/4/2011 – NOx RATA, NOx, VE**
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ Attached, Document ID: _____ ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: _____ ☐ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☒ Attached, Document ID: **VB-EU1-IV1**
2.	Compliance Assurance Monitoring: ☐ Attached, Document ID: _____ ☒ Not Applicable
3.	Alternative Methods of Operation: ☒ Attached, Document ID: **VB-EU5-IV3** ☐ Not Applicable
4.	Alternative Modes of Operation (Emissions Trading): ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT VB-EU5-F1.10

EMISSIONS CALCULATIONS

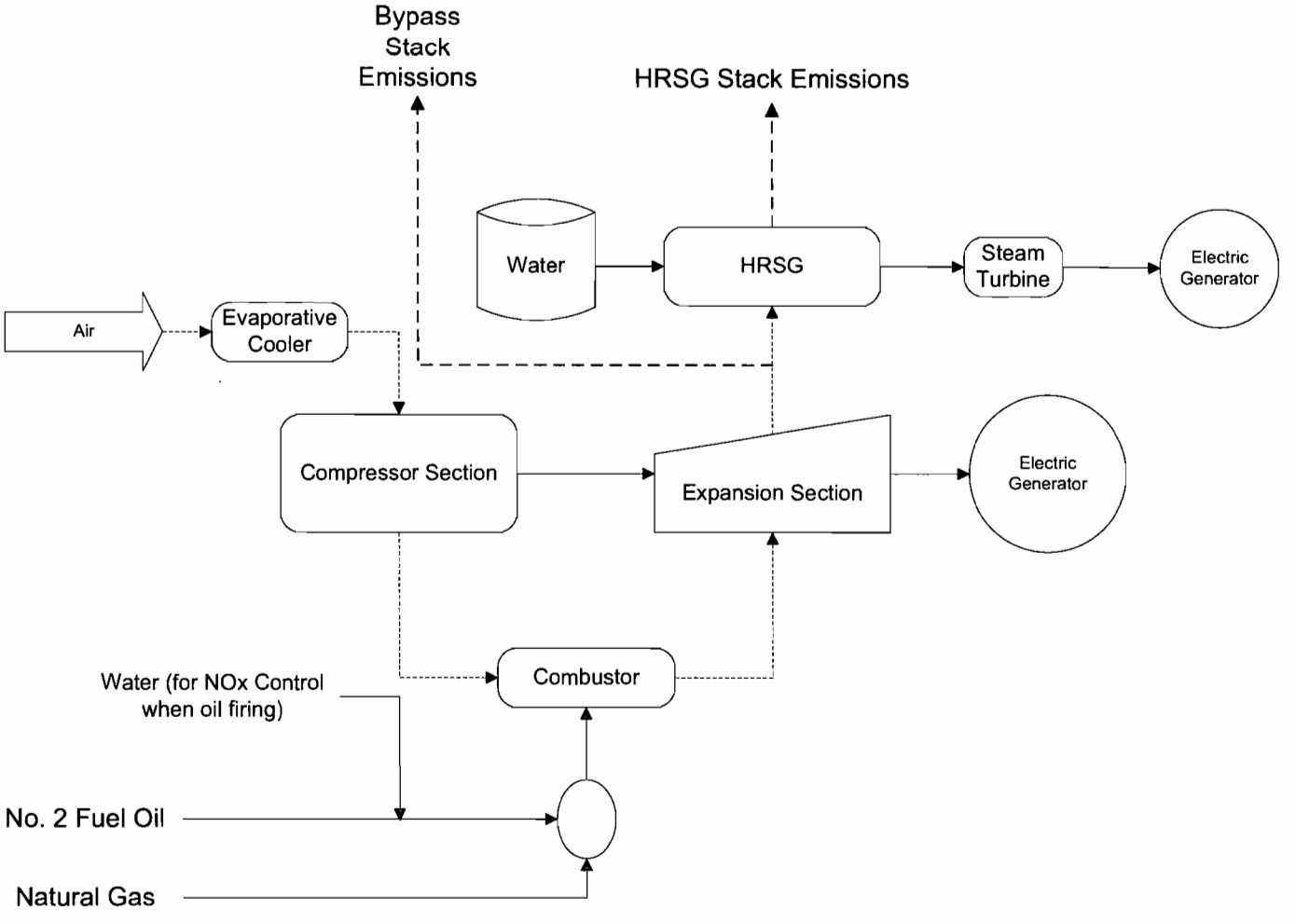
ATTACHMENT VB-EU5-F1.10.
MAXIMUM EMISSIONS FOR EMISSION LIMITED POLLUTANTS, CITY OF VERO BEACH
COMBINED-CYCLE GAS TURBINE UNIT 5

Pollutant	Combined Operation			Natural Gas Only Operation
	No. 2 Fuel Oil	Natural Gas	Total Annual	
Hours of Operation (hrs/yr)	8,760	8,760	8,760	8,760
Annual Capacity Factor	**33**	67		100
Sulfur Dioxide (lb/hr) (Oil) = Fuel sulfur content (%) x (MW SO2/MW S) x Fuel Consumption (lb/hr)				
Sulfur Dioxide (lb/hr) (Gas) = Fuel sulfur content (gr/100 cf)/7000 (gr/lb) x (MW SO_2/MW S) x Fuel Consumption (100 cf/hr)				
Basis	Permit	1 gr S/100 cf		1 gr S/100 cf
Sulfur Content (%)	**0.25**	NA		NA
Fuel Consumption (lb/hr) (3,500 gal/hr, 7.1 lb/gal)	24,850	NA		NA
Sulfur Content (gr/100 cf)	NA	1		1
Fuel Consumption (100 cf/hr)	NA	4,404.3		4,404.3
MW SO_2	64	64		64
MW S	32	32		32
Emission Rate (lb/hr)	124.3	1.3		1.3
(TPY)	179.6	3.7	**178.2**	5.5
Particulate Matter (lb/hr) = EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)				
Basis	Permit	Permit		Permit
EF (lb/MMBtu)	**0.025**	**0.006**		0.006
Heat Input Rate (MMBtu/hr)	455	414		414
Emission Rate (lb/hr)	11.4	2.5		2.5
(TPY)	16.4	7.3	**23.7**	10.9
Nitrogen Oxides (lb/hr) = NO_x (ppm) x {[20.9 x (1 -Moisture (%)/100)] - Oxygen (%)} x 2,116.8 x Volume flow (acfm) x 46 (mole wgt NO_x) x 60 min/hr / [1,545 x (CT temp (°F) + 460°F)x 5.9 x 1,000,000 (ppm)]				
Basis	Permit	Permit		Permit
Basis, ppmvd @ 15% O_2	**42.0**	**25.0**		25.0
Moisture (%)	8.05	9.70		9.70
Oxygen (%)	13.10	13.16		13.16
Volume flow (acfm)	702,135	707,780		707,780
Temperature (°F)	1,003	1,003		1,003
Emission Rate (lb/hr)	79.0	44.3		44.3
(TPY)	114.2	130.0	**243.7**	194.0
Carbon Monoxide (lb/hr) = CO (lb/MMBtu) x Heat Input Rate (MMBtu/hr)				
Basis	Permit	Permit		Permit
Emission Rate Basis (lb/MMBtu)	**0.0226**	**0.0224**		0.0224
Heat Input Rate (MMBtu/hr)	455	414		414
Emission Rate (lb/hr)	10.3	9.3		9.3
(TPY)	14.9	27.2	**42.1**	40.6
		27.2		
Volatile Organic Compounds (lb/hr) = VOC (lb/MMBtu) x Heat Input Rate (MMBtu/hr)				
Basis	Permit	Permit		Permit
Emission Rate Basis (lb/MMBtu)	**0.0113**	**0.0112**		0.0112
Heat Input Rate (MMBtu/hr)	455	414		414
Emission Rate (lb/hr)	5.1	4.6		4.6
(TPY)	7.4	13.6	**21.0**	20.3

Note: Emission limits are in bold.
Universal Gas Constant = 1,545 ft-lb(force)/°R
Atmospheric pressure = 2,116.8 lb(force)/ft^2
ppmvd = parts per million, volume dry.
O_2 = oxygen

ATTACHMENT VB-EU5-I1

PROCESS FLOW DIAGRAM



Attachment VB-EU5-I1
Combined Cycle Unit 5 Process Flow Diagram
City of Vero Beach Municipal Power Plant - Vero Beach, Florida

Process Flow Legend
Solid/Liquid
Gas
Steam

Golder Associates

Y:\Projects\2011\113-87747 CoVB TVRen\Final\Att\VB all flow diagrams.vsd

ATTACHMENT VB-EU5-I2

FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT VB-EU5-I2
FUEL ANALYSIS OR SPECIFICATION

Fuel	Density (lb/gal) [a]	Moisture (%)	Maximum % Weight Content			Heat Capacity
			Sulfur	Nitrogen	Ash	
Natural Gas	0.045 [b]	—	1 [c]	0.43 [d]	—	23,100 Btu/lb 1,030 Btu/ft^3
No. 2 Fuel Oil	7.1	0.01	0.25	0.02	<0.01	19,500 Btu/lb 138,500 Btu/gal

[a] At 60 degrees Fahrenheit.
[b] Represented as lb/ft^3. Based on high heating value heat capacities presented.
[c] Represented as grains/100 ft^3.
[d] Atmospheric nitrogen.

ATTACHMENT VB-EU5-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT VB-EU5-I3
DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Water Injection

The GE Mark IV NO_x control algorithm utilizes data from digital temperature and humidity monitors located at each combustion turbine. The algorithm receives and processes the ambient temperature and humidity on a continuous basis. A temperature/humidity correction is used in determining the amount of water to inject for NO_x control. The correction accounts for the ambient water entering the combustion chamber, and then it adds the correct amount of injection water in order to ensure compliance with the unit's required water-to-fuel ratio as determined from the water/fuel curve. This algorithm ensures compliance on a continuous basis regardless of the unit load and ambient weather conditions.

Low-NO_x Burners

Low-NO_x burners reduce NO_x by accomplishing the combustion process in stages. GE's DLN 26 combustion system reduces turbine NO_x emissions by 40 percent and enables the turbine to be operated at lower power during off-peak periods, consuming less fuel.

ATTACHMENT VB-EU5-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT VB-EU5-I4
PROCEDURES FOR STARTUP AND SHUTDOWN

Startup of the gas turbine begins with a start command initiated in the Mark V Computer. Fuel selection is also made during the start command. The fuel is introduced into the combustion chamber and ignited. The gas turbine is equipped with Dry Low NO_x (DLN) Combustors. During the startup process the DLN Combustors will go through four different firing stages to achieve its' steady state, the first is the primary followed by lean-lean, secondary and finally steady state premix.

Shutdown begins when the stop command is executed on the Mark V Computer. At this time, the unit begins a scheduled controlled shutdown. When the unit reaches approximately 18 percent speed, the fuel reference valve closes and the unit coasts down to zero speed.

Excess emissions are kept to a minimum during natural gas firing by operating the gas turbine in the steady state premix mode. When burning liquid fuel, emissions are minimized with the use of a water injection system. Countermeasures taken during periods of high excess emissions include the following: reduction of unit load, removal of the unit from service, resetting the steady state premix mode if necessary. Continuous monitors are currently in place for NO_x emissions. Audible and visual alarms notify the operator when the CT has exceeded the permit limits for NO_x.

Knowledge of the appropriate countermeasures to take during periods of excess emissions is part of the operators training. Training includes, current permit limits and conditions, countermeasures to be taken during excess emissions, and proper notification process when excess emissions have occurred.

ATTACHMENT VB-EU5-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT VB-EU5-IV3

ALTERNATIVE METHODS OF OPERATION
COMBINED-CYCLE UNIT 5

Unit 5 is permitted to burn either natural gas or No. 2 fuel oil. The unit may operate continuously (i.e., 8,760 hours per year). No. 2 fuel oil may be fired at a rate not to exceed 33 percent annual capacity factor. Maximum annual consumption of No. 2 fuel oil is limited to 10,000,000 gallons per year.