JEA
NORTHSIDE GENERATING STATION

Air Permit Application

Efficiency Enhancement Project

September 2004

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21 West Church Street
Jacksonville, Florida 32202-3139

September 28, 2004

JEA

Jim Pennington, P.E.
Administrator
Permitting North
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

ELECTRIC
WATER
SEWER

RE: Northside Generating Station Units 1, 2, and 3
Title V Permit 0310045-011-AV

Dear Mr. Pennington:

Enclosed please find our application (4 originals) for a minor source construction permit for our upcoming turbine rotor replacement project.

The project description can be found in the introduction section of the application.

If you have any questions, please don't hesitate to call me at 665-6247.

Sincerely,

N. Bert Gianazza, P.E.
Environmental Services

cc: Robert S. Pace, P.E., EQD

AIR PERMIT APPLICATION

JEA – Northside Generating Station

Jacksonville, Florida

September 2004

Prepared by:
BLACK & VEATCH CORPORATION
11401 Lamar Avenue, Overland Park, Kansas 66211

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TABLES

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1.0 INTRODUCTION

It is the purpose of this minor source air permit application to request approval for JEA to proceed with plant efficiency upgrade projects (hereinafter referred to as "Projects") at the Northside Generating Station (NGS). As explained further in Section 1.2, the Projects include the replacement of steam turbine rotor components on NGS Units 1, 2, and 3 with more reliable and efficient models, but will not result in any increase in fuel consumption, heat input, steam generation, or emissions. The approach outlined in this application is based on JEA's pre-application meeting with Mr. Mike Halpin of the Florida Department of Environmental Protection (FDEP) on July 1, 2004. Additionally, under separate correspondence, JEA has confirmed with the FDEP's Siting Board (correspondence with Buck Oven) that the proposed Projects will not be subject to the Power Plant Siting Act (PPSA), as there is no increase in steam generation. A copy of that determination is provided in Appendix A.

1.1 Background

JEA's NGS consists of two new coal fired circulating fluidized bed (CFB) boilers and one fuel oil fired boiler. The new CFB Boilers (Units 1 and 2) were recently constructed under the U.S. Department of Energy's Clean Coal Technology initiative as part of a comprehensive repowering of the existing steam generators rated at 297.5 MW each. Units 1 and 2 first become operational in November 1965 and March 1972, respectively; and prior to the repowering project, were permitted to fire No. 6 fuel oil or natural gas. The new repowered CFB boilers fire petroleum coke, bituminous coal, or a mixture of the two, and use natural gas or No.2 distillate oil for start-up.

Prior to the repowering project, Unit 2 had been shutdown in long-term reserve since March 1, 1984, while Unit 1 continued to operate until the repowering project's start of construction. As part of the CFB repowering project, the old (existing) Units 1 and 2 boilers were permanently shutdown and decommissioned. NGS Unit 3 began operation in June of 1977, and is currently rated at 563.5 MW (nameplate), firing primarily residual oil and natural gas. Unit 3 was not modified during the Units 1 and 2 repowering project.

In addition to the aforementioned modifications associated with the repowering project, JEA made a Community Commitment involving, among other things, a 10 percent reduction in stack emissions from NGS Units 1, 2, and 3 from their base line levels in 1994 and 1995.

1.2 Project Description

JEA is proposing to improve the efficiency and reliability of the existing steam turbines for NGS Units 1, 2 and 3. The proposed efficiency upgrade Projects will include the replacement of steam turbine rotor components with more reliable and efficient models. For Units 1 and 2, the General Electric (GE) low pressure (LP) steam turbine rotor will be entirely replaced with new GE LP steam turbines, respectively. The LP steam turbine rotor replacement is proposed in lieu of the repairing the existing turbine, as is routinely done about every five years. The existing steam turbines on Unit 1 and 2 are more than 30 years old, and were not modified nor repaired during the recently completed repowering project. The efficiency increase of the new LP steam turbine rotor will increase the gross output of Units 1 and 2 from 297.5 MW to approximately 306 MW each, with no increase in boiler heat input, fuel consumption, or steam generation.

In comparison, NGS Unit 3 is much larger than Units 1 and 2, currently rated at 563.7 MW gross, and uses Westinghouse technology in its steam turbine. JEA proposes to replace high pressure and intermediate pressure (HP/IP) turbine rotor components with new Westinghouse HP-IP Turbines. As with Units 1 and 2, the steam turbine rotor replacement is proposed in lieu of routine repair and maintenance of the existing equipment, which is nearly 27 years old. Installation of a new Westinghouse HP/IP steam rotor will increase the gross output of Unit 3 by approximately 17 MW or to approximately 580.7 MW gross, with no increase in boiler heat input, fuel consumption, or steam generation.

Figure 1-1 presents a timeline of the proposed Projects. As seen from Figure 1-1, the efficiency enhancements will be coincident with scheduled outages for Units 1, 2 and 3, respectively. Unit 3's steam turbine rotor replacement will take place in the fall of 2005. Units 1 and 2's steam turbine rotor replacements will take place in fall of 2006 and spring of 2007, respectively. The Projects for Units 1, 2 and 3 will be completed within a 15-18 month window. The Projects' emission calculation procedures for NSR applicability is discussed further in subsequent sections of this document. The associated air permit application forms are listed in Appendix B.

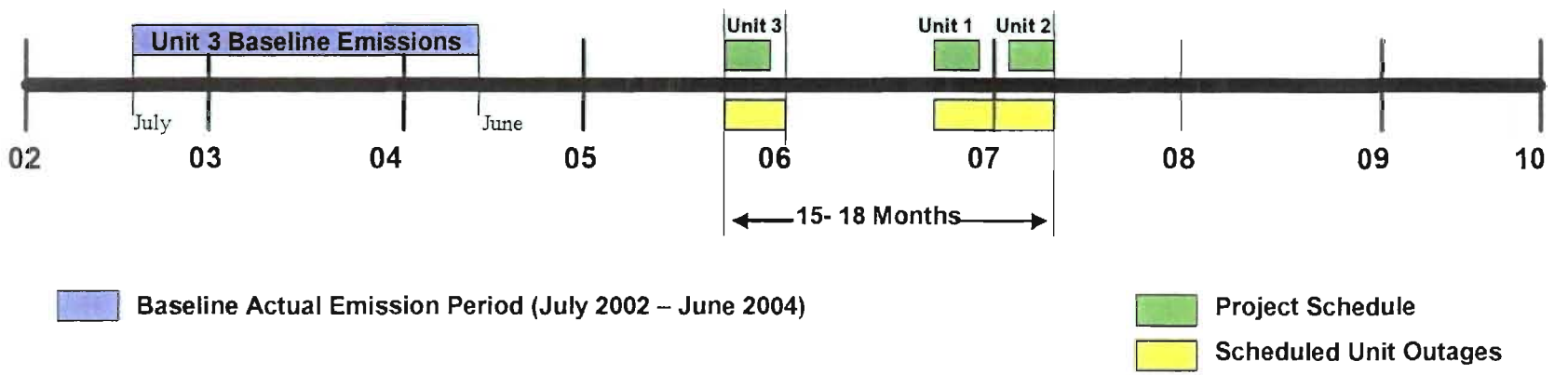


Figure 1-1 Project Timeline

2.0 NEW SOURCE REVIEW APPLICABILITY

It is the purpose of this section to demonstrate that the proposed steam turbine rotor replacements for Units 1, 2, and 3 are not subject to the New Source Review Prevention of Significant Deterioration (NSR/PSD) review.

2.1 Major Modification Under PSD

The NSR/PSD program establishes requirements for major PSD sources of air pollutants to undergo pre-construction review for major modifications to existing sources. The definition of a major modification is any physical change or change in the method of operation of a major stationary source that would result in a significant net emissions increase of a regulated pollutant. The regulation sets forth specific threshold levels of annual emission rates that constitute a significant emissions increase. The PSD significant emission rates pertaining to net emissions increase resulting from modifications are summarized in Table 2-1 below.

Table 2-1
PSD Significant Emission Rates

Pollutant	Significant Emission Rate (tpy)
PM	25
NO_x	40
SO_2	40
PM_{10}	15
CO	100
VOC	40

As an existing major PSD source, the proposed Projects at NGS would be subject to NSR/PSD review if the modifications resulted in a significant emissions increase. The emissions increase is determined by comparing the pre-Project (past actual) baseline emissions with the post-Project potential to emit (PTE). Electric utility steam generating units (EUSGUs) have the option of using post-Project future actual emissions (i.e., representative actual annual emissions) instead of PTE in determining the significant emission increase. The FDEP rules cite 40 CFR Part 52.21(b)(33) (pre-NSR Reform) for the definition of representative actual annual emissions. Representative actual annual emissions are defined in 40 CFR Part 52.21(b)(33) as, "the average rate, in tons per year, at which the source is projected to emit a pollutant for the two-year period after a physical change or change in the method of operation of a unit, (or a different consecutive

two-year period within 10 years after that change, where the Administrator determines that such period is more representative of normal source operations), considering the effect any such change will have on increasing or decreasing the hourly emissions rate and on projected capacity utilization. In projecting future emissions the Administrator shall:

- Consider all relevant information, including but not limited to, historical operational data, the company's own representations, filings with the State or Federal regulatory authorities, and compliance plans under title IV of the Clean Air Act; and
- Exclude, in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit that is unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole."

Under the above discussed methodology, EUSGUs compare their actual annual emissions before the change with their projected annual emissions after the change to determine if a physical or operational change would result in a significant increase in emissions, an thus subject to NSR/PSD. Major modifications that result in a significant emissions increase are subject to PSD review, possibly including:

- Implementation of Best Available Control Technology (BACT)
- Increment analysis (air dispersion modeling)
- NAAQS analysis (air dispersion modeling)
- Class I analysis (air dispersion modeling)

A December 31, 2002, NSR rule change, revised the modification determination rule language by essentially allowing non-electric utility steam generating units the same flexibility of using actual-to-future-actual emission calculation methodology for determining the net emission increase under PSD rules. The requirements for EUSGUs were unchanged for the most part, although some revisions, clarifications, and revised definitions stemming from the WEPCO Rule emission calculation methodology for determining whether a modification will result in a significant emissions increase were made.

For states and local reviewing authorities that have a delegated authority under the federal program (USEPA) to issue NSR/PSD permits, these changes become effective March 3, 2003. All other states, including Florida, that issue NSR/PSD permits under a SIP-approved program, have three years after the rule promulgation date to implement the revisions. During the July 1,

2004 pre-application meeting, FDEP informed JEA that the Department is not aggressively pursuing an early adoption of the NSR reform rules, and the JEA should proceed with the existing WEPCO Rule emission calculation methodology, as codified in the FDEP air quality regulations.

2.2 Units 1 and 2: Emissions Calculations

The first step in determining whether or not the steam turbine rotor Projects will result in a significant emissions increase, and thus become subject to NSR/PSD review, is to determine the pre-Project baseline actual emissions. FDEP Regulation Chapter 62-210 *Stationary Sources* defines actual emissions as the average rate, in ton per year (tpy), at which the emissions unit actually emitted during a two year period preceding the Project, which is also representative of normal operations. As will be shown later in this section, since commencing operation following the CFB repowering projects, neither Unit 1 nor Unit 2 has achieved normal operation, and therefore do not have a long and representative emissions history upon which to determine their baseline actual emissions. Certainly their baseline emissions profile before the CFB repowering is unrepresentative of current normal operation and nonexistent in the case of Unit 2 as it was shutdown in long-term reserve.

To illustrate their unrepresentative operation and emission history, the following is a summary of the start-up history and challenges associated with Units 1 and 2 operations:

The initial start-up hurdle began on September 5, 2002, when the contractor responsible for delivering a turn-key re-powering project of the boiler island left the site prior to contractual completion. At that time the units had not achieved any reasonable degree of reliability.

Subsequently, JEA undertook a series of projects to improve equipment reliability. Following the completion of these projects which addressed the most basic of reliability issues, additional reliability projects addressing design deficiencies were undertaken. These projects included extensive research and development for these state-of-the-art, one of a kind, largest in the world, DOE clean coal technology demonstration project circulating fluidized bed units to correct the numerous design deficiencies and operational short-comings that had been identified.

In approximately January of 2004 a major design deficiency in the super heater section of the boiler became apparent. At the time the boiler was designed, the ASME boiler code did not require the super heater tube bends in this application to be solution annealed to relieve residual stresses. Since construction of the boiler was completed, the ASME boiler code has changed and now requires solution annealing for this application. The lack of solution annealing has resulted

in increasingly frequent stress related tube failures. Temporary repairs are being made in order to maintain the best possible reliability until the permanent replacements can be installed. Replacement of the superheat surface is expected to occur simultaneously with the LP turbine replacement. These units are currently operating under a compliance plan until at least mid-2005 due to excess emissions resulting from start-up, shutdown, and malfunction due to the aforementioned reliability problems currently being rectified.

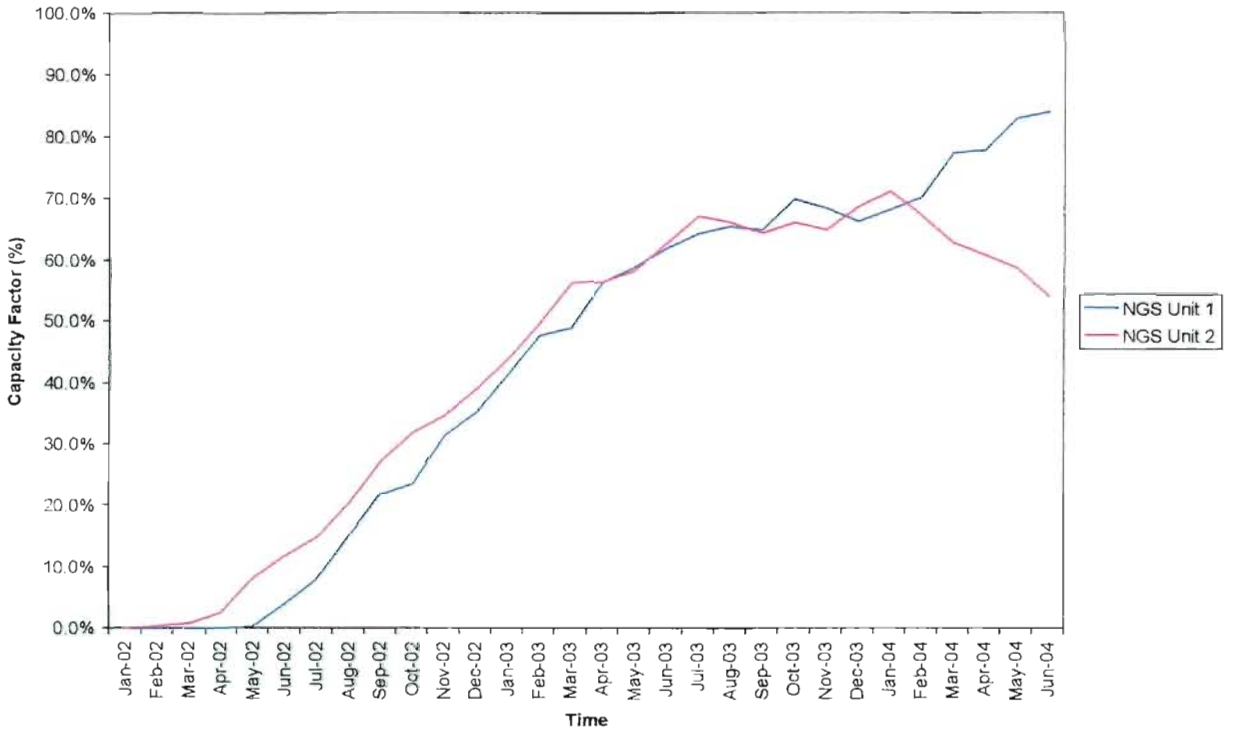
As is evident from the aforementioned discussion, Units 1 and 2 do not have a pre-Project representative baseline period upon which to base the emissions increase analysis. In limited circumstances such as this, NSR/PSD guidance specifies that where sufficient representative operating data do not exist to determine historic actual emissions, and the reviewing agency has reason to believe that the source would be operating at or near its allowable emissions level, the reviewing agency may presume that the potential emissions are equivalent to (and therefore can be used in place of) actual baseline emissions at the affected unit.

Had Units 1 and 2 not experienced their initial start-up problems as previously discussed, these units, as the newest, state-of-the-art boilers in JEA's fleet, they would have undoubtedly assumed a greater portion of NGS's generating capacity, resulting in operation at or very near their full capacity. As such, JEA proposes to use Units 1 and 2's PTE as representative of their pre-Project baseline actual emissions, as discussed with Mr. Mike Halpin during the FDEP pre-application meeting on July 1, 2004. As represented in NGS's most recent Title V application, the PTE, and thus baseline emissions, for Units 1 and 2 are shown in Table 2-2.

Table 2-2
Units 1 and 2 Net Emission Increase Calculations

Pollutants (tpy)		NO_x	SO_2	PM_{10}	PM	CO	VOC
Baseline	Unit 1	1,090	1,816	133	133	1,533	61.5
	Unit 2	1,090	1,816	133	133	1,533	61.5
Total		2,180	3,632	266	266	3,066	123
Post-Project PTE		2,180	3,632	266	266	3,066	123
Net Emissions Increase		0	0	0	0	0	0

Figure 2-1 NGS Units 1 and 2 Rolling 12-Month Average Capacity Factors



As the steam turbine rotor replacements for Units 1 and 2 will not result in an increase in the maximum heat input or fuel consumption the post-Project representative actual annual emissions levels for Units 1 and 2, like their pre-Project baseline emissions, are also equal to their PTE. Therefore, as further demonstrated in Table 2-2, the steam turbine rotor replacements for Units 1 and 2 will not result in a significant emissions increase, and are not therefore considered major modifications that would be subject to NSR/PSD review.

2.3 Unit 3: Emissions Calculations

Unlike Units 1 and 2, Unit 3 has a long, recent, and operationally representative history of emissions, fuel consumption, and heat input data from which to calculate the baseline actual emissions. As such Unit 3's baseline emissions were determined as currently defined in FDEP air regulations, by calculating pre-Project baseline actual emissions as the average rate, in ton per year (tpy), at which the emissions unit actually emitted during a two year period preceding the Project. The emission calculation spreadsheets are presented in Appendix C.

It was agreed during the July pre-aplication meeting to use the most recent 24 months of emissions data available for Unit 3, and that any imposed federally enforceable limits, such as JEA's Community Commitment Levels (CCLs), need to be considered when determining Unit

3's baseline emissions. Unit 3's actual baseline emissions are presented in Table 2-3 along with NGS's community commitment levels.

Table 2-3
Unit 3 Pre-Project Baseline Emissions

Pollutants (tpy)	NO_x	SO_2	PM_{10}	PM	CO	VOC
Previous 24-Month Period Annual Average[1]	2,657	9,162	405	610	445	44
Community Commitment Levels	3,600	12,284	881	881	-	-

[1] The 24-month period is from July 2002 through June 2004.

As seen from the table, Unit 3's baseline emissions are less than the CCLs and do not need to be corrected with respect to this federally enforceable limit. Once the start-up hurdles associated with the operation of Units 1 and 2 are overcome and they start operating at higher capacity factors on a consistent basis, Unit 3's operations will be limited by the CCLs because on a facility-wide basis, JEA will continue to be in compliance with the CCLs.

As with Units 1 and 2, the proposed modifications are a steam turbine efficiency improvement that will not result in an increase in maximum boiler heat input, steam generation, or emissions.

Appendix A

Copies of Agency Correspondence

Appendix A

Copies of Agency Correspondence

Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

April 30, 2004

Ms. Susan N. Hughes, P.E.
Vice President, Environmental Services
JEA
21 West Church Street
Jacksonville, Florida 32202-3139

Dear Ms. Hughes:

I have reviewed your letter of April 29, 2004, concerning the Efficiency Improvement Projects for the Northside Generating Station. Since those units had environmental permits prior to July 1, 1973, they were not subject to the provisions of the Florida Electrical Power Plant Siting Act. Since the proposed efficiency projects for Northside Units 1, 2 and 3 do not include any increase in steam generating capacity over that existing on October 1, 1973, such efficiency increases are not subject to the Act as depicted in §403.506(1), Florida Statutes.

The Department of Environmental Protection is pleased to note JEA's efforts to improve the energy efficiency of the Northside Generating Station which will result in increased power production without a corresponding increase in air or water pollution.

If I can be of further assistance in this matter, please feel free to contact me.

Sincerely,

Hamilton S. Oven

Hamilton S. Oven, P.E.
Administrator
Siting Coordination Office

April 29, 2004

JEA

Hamilton S. Oven, P.E., Administrator
Siting Coordination Office
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

RE: Northside Units 1, 2, and 3
Efficiency Improvement Projects

Dear Mr. Oven:

Thank you for meeting with Bert Gianazza, Paul Steinbrecher, and me last week to discuss JEA's planned efficiency improvement projects for our Northside Units 1, 2, and 3. By this letter we request confirmation from your office that the proposed projects will not require site certification under the Florida Electrical Power Plant Siting Act (PPSA). These projects will result in approximately 34 megawatts of additional electrical output (approximately 17 Mw for Units 1 and 2, and approximately 17 MW for Unit 3) without any increase in the units' steam generating capacity.

By way of background, Northside Units 1, 2, and 3 were originally grandfathered under the PPSA and therefore did not require certification pursuant to the PPSA. Units 1 and 2 were recently repowered, using the original turbines, without any expansion in the units' steam generating capacity, and thus site certification under the PPSA was not required for the repowering project. When introducing the repowering of Units 1 and 2 to our community and environmental stakeholders, JEA voluntarily committed to reducing actual emissions from Units 1, 2, and 3 by 10% from '94/'95 emissions levels of sulfur dioxide, nitrogen oxides, and particulate matter. This "Community Commitment" was memorialized in the form of federally enforceable annual emissions limits. JEA remains fully committed to these reductions, which are reflected in the chart provided for your information in the attached documents.

As we discussed, the planned efficiency improvement projects for Units 1, 2, and 3 will not result in an increase in the heat input rates, fuel throughput rates, or steam generating capacities of the units. Because the heat inputs and fuel throughput rates are not being increased, there will also be no resulting increase in the air emission rates for the units. This "green power" project would result in additional electrical output solely through efficiency improvements to the turbine systems of each unit by

replacing the low pressure turbines on Units 1 and 2, and the high-pressure/intermediate-pressure turbine assembly on Unit 3 with more efficient designs. With no increase in steam generating capacity and no additional environmental impacts, it is our understanding that site certification under the PPSA is not required for these efficiency improvement projects (Section 403.506(1), Florida Statutes). JEA has been communicating with stake-holders and thus far these efficiency projects have been well received. We will continue to keep these stakeholders informed as we progress.

Because there will be no increase in emissions from base-line levels as a result of these projects, New Source Review is not applicable. A separate letter with baseline evaluations will be sent to the FDEP Permitting section for verification of NSR non-applicability.

Thank you for your assistance in this matter, and we look forward to receiving your response. Please do not hesitate to call me should you have any questions or need for further clarification regarding this request. I can be reached at 904-665-6248, or, more readily, at hughsn@jea.com.

Sincerely,

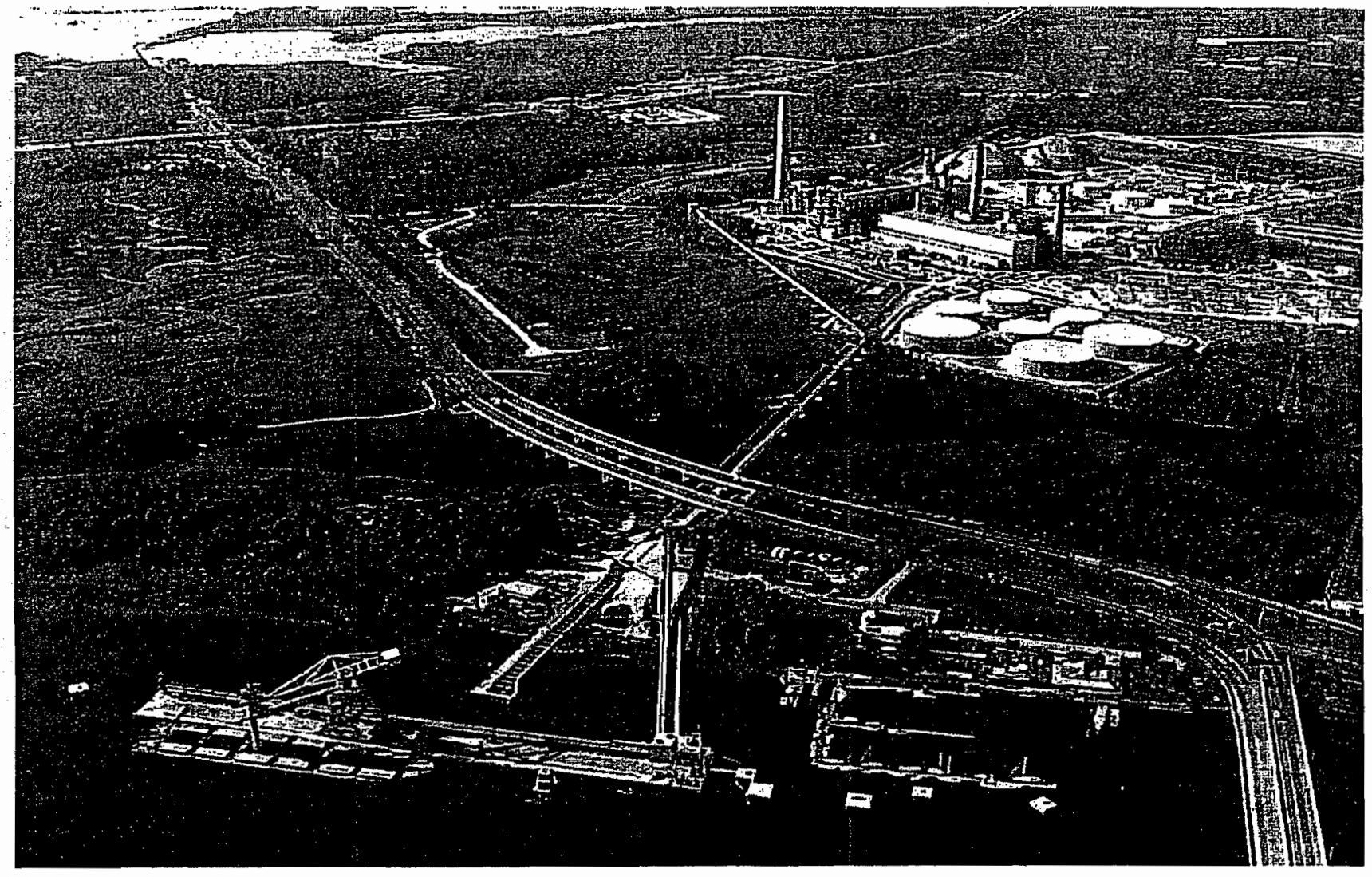
Susan N. Hughes, P.E.
Vice President
Environmental Services

Enclosures

HSN/nbg


JEA

NGS Units 1 & 2 are the Largest, State-of-the-Art Circulating Fluidized Bed Boilers (CFBs) in Existence



Measurable Terms of Community Commitment

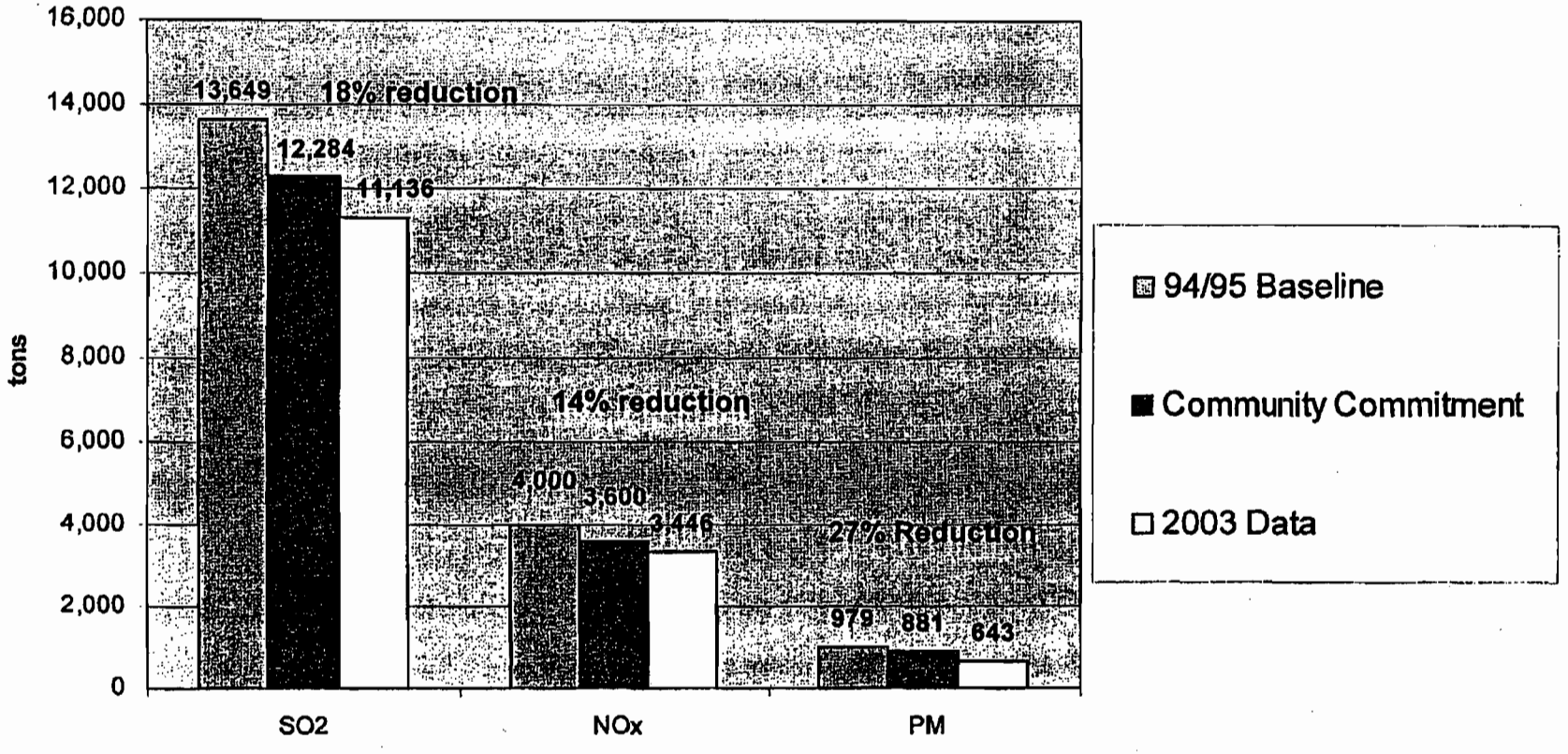
Parameter	Existing Facility Units 1 and 3 (tons/year)	Tons/Year Reduced From 94/95 Baseline (10%)	Proposed Facility Units 1,2, & 3 (tons/year)
NO_x	4,000	400	3,600
SO_2	13,649	1,365	12,284
PM	979	98	881

Total Groundwater Withdraw 1996 (millions of gallons)	Millions of gallons reduction (% reduced)	Proposed Groundwater Withdraw Units 1, 2, & 3 (millions of gallons)
233	25 (11%)	208

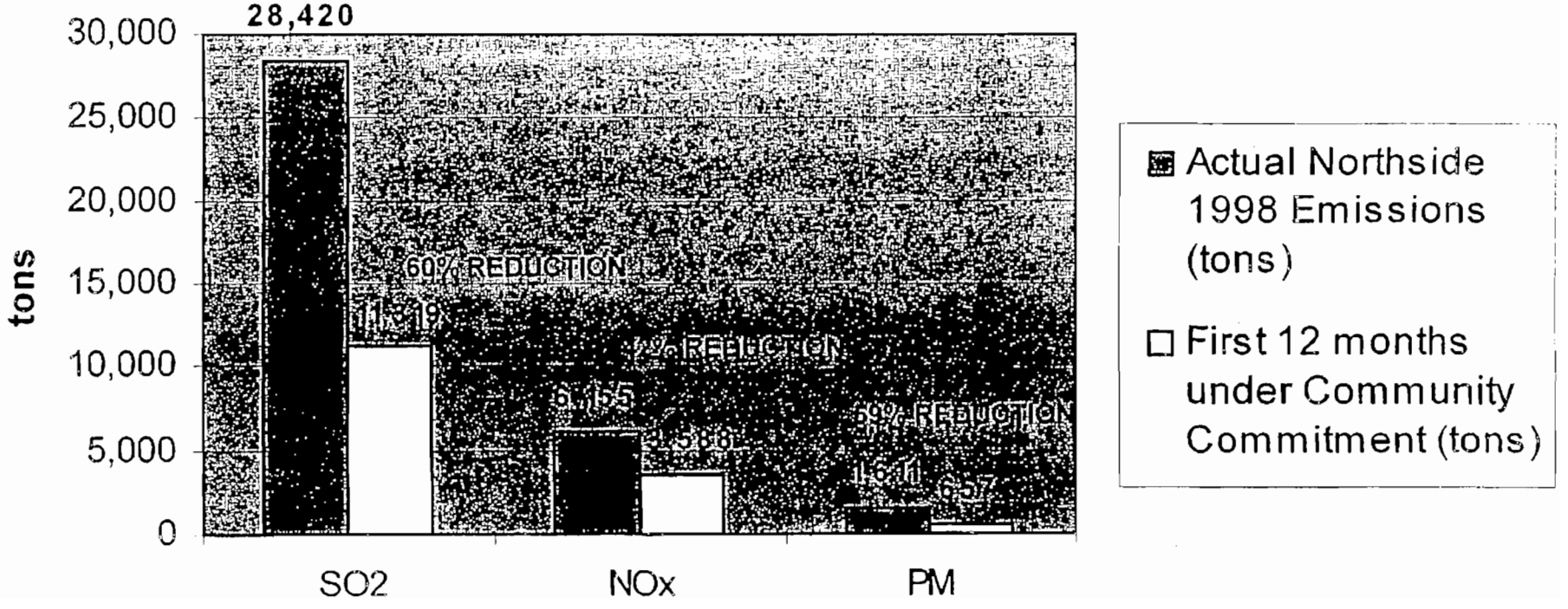
Net Megawatt Production at NGS Prior to Repowering	Net Megawatt Production at NGS After Repowering (Estimated)	Difference
2250000 mwh/yr	5625000 mwh/yr	2.5 times greater!

- Construction Began in August 1999
- Unit 2:
  - First Fire February 11, 2002
  - Max Load May 7, 2002
- Unit 1:
  - First Fire May 27, 2002
  - Max Load August 6, 2002

First Full Year of Operation Resulted in an Emissions Reduction at Northside



Actual Emission Reductions are Even Greater When Compared to 1998 Levels



First Full Year of Operation Resulted in More Power Generated at Northside

- Baseline (94/95) Generation = 2,250,000 MWH
- 2003 Generation = 4,686,514 MWH
- 2.08 times as much power!

NGS MW Increase Opportunity

- No increase in heat input
- No increase in steam generation
- No increase in pollutant emissions
- Additional MW output from efficiency gains alone (green power)
- NSR Not Applicable

Units 1 & 2

- Replacement of low pressure turbine rotors and casings needed due to age
- Replace with higher efficiency components resulting in 17 MW of additional green power
- Scheduled for Fall '06/'07 outages

Unit 3

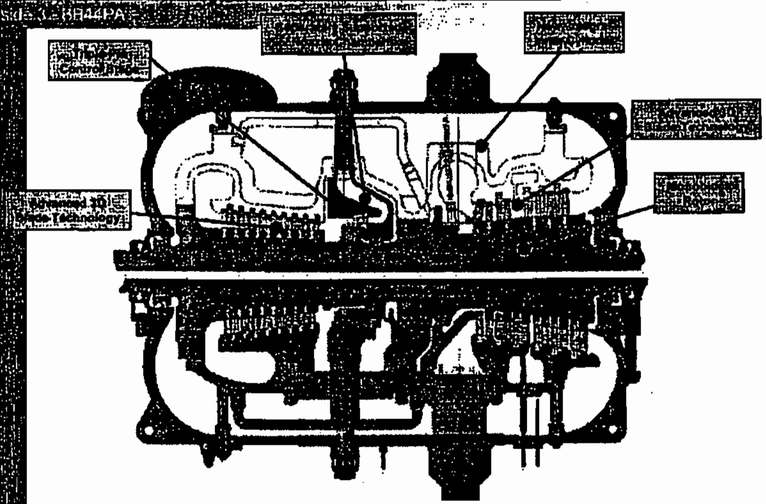
- Replacement of high pressure and intermediate pressure turbine rotors and casings needed
- Not subject to NSR due to continuing reduced utilization
- Use higher efficiency components resulting in approx. 17 MW of additional green power
- Scheduled for Fall '05 outage

BEST AVAILABLE COPY

BB44 and BB44PA Comparison

SIEMENS Westinghouse

JEA Northside 3 - BB44PA

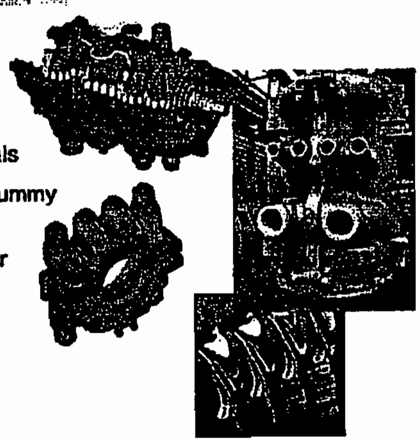


BB44PA Design Features

SIEMENS Westinghouse

JEA Northside 3 - BB44PA

- integral inner casing
- partial-arc admission
- optimized blading
- improved blade path seals
- retractable HP and LP dummy seals
- monoblock, no-bore rotor
- simple installation
  - reuse outer casing
  - reuse inlet sleeves
  - reuse bearings
  - reduce alignments



Units 1 and 2 Capacity Factors

	2003	Design
Unit 1	66.0 %	90+%
Unit 2	68.7 %	90+%

- FAC 62-210.200(11)(c) - "For any emissions unit...which has not begun normal operations on a particular date, actual emission shall equal the potential emissions of the emissions unit on that date."

Preliminary NGS Unit 3 Baseline Actual Emissions

	NO_x (tpy)	VOC (tpy)	PM_{10} (tpy)	SO_x (tpy)	CO (tpy)	PM (tpy)
Most Recent 2 Years Annual Average[a]	**3,054**	**47**	**441**	**8,897**	**486**	**595**
Highest 24-Month Period Annual Average[b]	**3,443**	**49**	**670**	**11,044**	**491**	**690**
Annual Permit Limits for Units 1, 2, & 3 Combined	**3,600**	**N/A**	**881**	**12,284**	**N/A**	**881**

(a) Period of Record: January 2002 – December 2003.

(b) Period of Record: January 2001 – December 2002, CO Period of Record is February 2001 – January 2003.

Emission calculations based on Annual Operating Reports for 1999 – 2003 and monthly fuel records for the same period.

Proposed Regulatory Approval Approach

- Obtain DEP Concurrence on NSR
  - Not Applicable Due to No Emissions Increase

- Obtain Confirmation of Site Cert Non-Applicability
  - No Increase in Heat Input
  - No Increase in Pollutant Emissions
  - No Increase in Steam Generation
  - MW Increase Due to Improvement in Efficiency

Appendix B

FDEP Air Permit Application Forms

Department of
Environmental Protection
Division of Air Resource Management
APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

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

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

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

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: JEA	
2. Site Name: Northside Generating Station/St. john's River Power Park	
3. Facility Identification Number: 0310045	
4. Facility Location... Street Address or Other Locator: 4377 Heckscher Drive City: Jacksonville County: Duval Zip Code: 32226	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: N. Bert Gianazza – Environmental Services
2. Application Contact Mailing Address Organization/Firm: JEA Street Address: 21 West Church Street City: Jacksonville State: Duval Zip Code: 32202
3. Application Contact Telephone Numbers... Telephone: (904) 665-6247 ext. Fax: (904)665-7376
4. Application Contact Email Address: gianNB@jea.com

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	9-29-04
2. Project Number(s):	0310045-013-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

[X] Air construction permit.

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

JEA is proposing to upgrade the existing stem turbines for Units 1, 2 and 3 as part of this project. This proposed efficiency upgrade project will include the replacement of steam turbine rotor components with more reliable and efficient models. For Units 1 and 2, the General Electric low pressure (LP) steam turbine rotor will be entirely replaced in lieu of the repairing the existing turbine, as is routinely done about every five years. The new LP steam turbine rotor will increase the gross output of Units 1 and 2 from 297.5 MW to approximately 306 MW each, with no increase in boiler heat input, fuel consumption, or steam generation. JEA is also proposing to replace high pressure and intermediate pressure (HP/IP) turbine rotor components with new Westinghouse HP-IP Turbines. Installation of a new Westinghouse HP/IP steam rotor will increase the gross output of Unit 3 by approximately 17 MW or to approximately 580.7 MW gross, with no increase in boiler heat input, fuel consumption, or steam generation.

The scope of this air construction permit application is limited to NGS Units 1, 2, and 3 (EU0027, EU0026, EU003, respectively). Supplemental information previously submitted with June 2003 Title V Air Operating Permit Application Package are not included in this application, as it is less than 5 years old.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
027	NGS – Circulating Fluidized Bed Boiler No. 1	NA	NA
026	NGS – Circulating Fluidized Bed Boiler No. 2	NA	NA
003	NGS – Boiler No. 3	NA	NA

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 :
   James M. Chansler, P.E., D.P.A. Vice President, Operations and Maintenance
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: JEA
   Street Address: 21 West Church Street
   City: Jacksonville State: Florida Zip Code: 32202
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: (904) 665-4433 ext. Fax: (904) 665-7990
4. Owner/Authorized Representative Email Address: chanJM@jea.com
5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility 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 requirements identified in this application to which the facility 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.

James M. Chansler — 9-27-04

Signature Date

APPLICATION INFORMATION

Application Responsible Official Certification

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

1. Application Responsible Official Name:

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

   ☐ 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.

3. Application Responsible Official Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

5. Application Responsible Official Email Address:

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.

   Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Bert Gianazza
   Registration Number: 38640
2. Professional Engineer Mailing Address:
   Organization/Firm: JEA Tower 9
   Street Address: 21 West Church Street
   City: Jacksonville State: Florida Zip Code: 32202
3. Professional Engineer Telephone Numbers...
   Telephone: (904) 665-6247 ext. Fax: (904) 665-7376
4. Professional Engineer Email Address: gianNB@jea.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 9/27/04
Date

(seal)

BERT GIANAZZA
CERTIFICATE
No. 38640
STATE OF FLORIDA
PROFESSIONAL ENGINEER

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 446.70 North (km) 3365.10		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 81/33/3 Longitude (DD/MM/SS)	
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 :			

Facility Contact

1. Facility Contact Name: Bert Gianazza – Environmental Services
2. Facility Contact Mailing Address... Organization/Firm: JEA Street Address: 21 West Church Street City: Jacksonville State: Florida Zip Code: 32202
3. Facility Contact Telephone Numbers: Telephone: (913) 665-6247 Fax: (913) 665-7376
4. Facility Contact Email Address: gianNB@jea.com

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 Email 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:	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
CO	A	N
NO_x	A	Y
PM	A	Y
PM_{10}	A	N
SO_2	A	Y
VOC	A	N
Pb	B	N
H114	B	N
SAM	B	N
H107	A	N
H106	A	N
H095	A	N
H104	A	N
H113	A	N
H133	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 No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
NO_x	N	Units 1, 2 and 3		3,600	Construction Permit No. PSD-FL-265
PM	N	Units 1, 2 and 3		881	Construction Permit No. PSD-FL-265
SO_2	N	Units 1, 2 and 3		12,284	Construction Permit No. PSD-FL-265

7. Facility-Wide or Multi-Unit Emissions Cap Comment:
The facility cap is a community commitment level and is a consecutive 12-month limit, for NGS Units 1, 2 and 3 combined.

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:_____ [X] Previously Submitted, Date: June 2003
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:_____ [X] Previously Submitted, Date: June 2003
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:_____ [X] Previously Submitted, Date: June 2003

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID:_____ [X] Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification:
   [X] Attached, Document ID: Technical Support Document
3. Rule Applicability Analysis:
   [X] Attached, Document ID: Technical Support Document
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. 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:_____ [X] Not Applicable

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ 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:_____ ☐ Not Applicable (revision application)

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

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

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☐ Not Applicable

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

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☐ Not Applicable

Additional Requirements Comment

Additional Requirements Items were previously submitted within the past 5 years and would not be altered with this Project.

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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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:
NGS – Circulating Fluidized Bed Boiler No. 1

3. Emissions Unit Identification Number: EU027

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	Fall 2006	May 27, 2002	49	☒ Yes ☐ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: 306 MW

11. Emissions Unit Comment: As part of the proposed efficiency upgrade project on Unit 1, the General Electric low pressure (LP) steam turbine rotor will be entirely replaced in lieu of repairing the existing turbine, as is routinely done about every five years. The new LP steam turbine rotor will increase the gross output of Unit 1 from 297.5 MW to 306 MW, with no increase in boiler heat input, fuel consumption, or steam generation.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Initial sulfur dioxide (SO_2) control is achieved through limestone injection into the circulating fluidized bed (CFB) boiler. Further SO_2 control is achieved using an add-on spray dryer absorber. Calcium that is used to control SO_2 may be introduced into the CFB or spray dryer from a variety of sources, such as crushed limestone, slaked lime, bed ash and fly ash. Particulate matter (PM) consisting of flyash, the SO_2 control reaction products and unreacted calcium oxide is controlled using a fabric filter dust collector downstream of the spray dryer. Selective non catalytic reduction (SNCR) is used to reduce oxides of nitrogen (NO_x) emissions by reacting ammonia with NO_x to form molecular nitrogen and water.

2. Control Device or Method Code(s): 041, 013, 018, and 107

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 2,764 mmBtu/hour	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year
6. Operating Capacity/Schedule Comment: The maximum heat input rate is given in construction permit PSD-FL-265. The rate is included in the construction permit only for purposes of determining capacity during compliance stack tests. Continuous compliance with this rate is not required.	

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: EU027	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NGS – Circulating Fluidized Bed Boiler No. 2 (EU026) shares a common stack with NGS – Circulating Fluidized Bed Boiler No. 1 (EU027). The common stack contains two separate flues, one for each CFB boiler.		
5. Discharge Type Code: V	6. Stack Height: 495 feet	7. Exit Diameter: 15 feet
8. Exit Temperature: 144 °F	9. Actual Volumetric Flow Rate: 700,300 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): 446.670 North (km): 3365.070	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: NGS – Circulating Fluidized Bed Boiler No. 2 (EU026) shares a common stack with NGS – Circulating Fluidized Bed Boiler No. 1 (EU027). The common stack contains two separate flues, one for each CFB boiler.		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type): Coal used in CFB Boiler No. 1		
2. Source Classification Code (SCC): 10100218	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 138	5. Maximum Annual Rate: 1,211,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 20 (approx)
10. Segment Comment:		

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type): Petroleum coke used in CFB Boiler No. 1		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 102	5. Maximum Annual Rate: 893,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 27.1 (approx)
10. Segment Comment: SCC number 10100218 is for external combustion boilers – electric generation – bituminous/subbituminous coal – atmospheric fluidized bed combustion: circulating bed (bituminous coal). SCC number 10100299 is used because a SCC number for combustion of petroleum coke was not found.		

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

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type): Coal and Petroleum coke blend used in Circulating Fluidized Bed Boiler No. 1		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 138	5. Maximum Annual Rate: 1,211,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 20 (approx.)
10. Segment Comment:		

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type): Natural gas including landfill gas used in Circulating Fluidized Bed Boiler No. 1		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate: 0.31 (approx.)	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2 gr/100 scf (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,000 (approx)
10. Segment Comment:		

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

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type): Distillate oil used in CFB Boiler No. 1		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 2.26 (approx.)	5. Maximum Annual Rate: 1,211,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.05 (approx.)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 140 (approx.)
10. Segment Comment:		

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
CO			**EL**
NO_X	**107**		**EL**
PM	**018**		**EL**
PM_{10}	**018**		**EL**
SO_2	**041**	**013**	**EL**
VOC			**EL**
H114	**013**	**018**	**EL**
PB	**018**		**EL**
SAM	**041**	**013**	**EL**
H107	**013**		**EL**
H106	**013**		**NS**
HAPS			**NS**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 350 lb/hour (24-hour block average) 1,533 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 350 lb/hour (24-hour block average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0
8. Calculation of Emissions: The CO emissions limit of 350 lb/hour on a 24-hour average (excluding startup and shutdown) is set by construction permit PSD-FL-265. The CO emissions limit of 1,533 tons/year is set by construction permit PSD-FL-265.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 350 lb/hour (24-hour block average)	4. Equivalent Allowable Emissions: 350 lb/hour 1,533 tons/year
5. Method of Compliance: Compliance with CO emission limits will be demonstrated using CEMS	
6. Allowable Emissions Comment (Description of Operating Method): This CO emissions limit is based on a 24-hour block average, excluding periods of startup, shutdown and malfunction. The 24-hour block average is calculated from midnight to midnight. The CO emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

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: 1,533 tons per year	4. Equivalent Allowable Emissions: lb/hour 1,533 tons/year
5. Method of Compliance: Compliance with the annual CO emissions limit will be demonstrated by summing the hourly CO emission rate data from the CEMS.	
6. Allowable Emissions Comment (Description of Operating Method): The CO emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NO_x	2. Total Percent Efficiency of Control:
3. Potential Emissions: 249 lb/hour (30-day rolling average) 1,090 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.09 lb/MMBTU (30-day rolling average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The NO_x Emissions limit of 0.09 lb/mmBtu is set by construction permit PSD-FL-265.
The heat input rate to EU027 is 2,764 mmBtu/hr.
Hourly NO_x emissions rate = (0.09 lb/mmBtu)(2,764 mmBtu/hr) = 249 lb/hr
Annual NO_x emissions rate = (0.09 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb) =
= 1,090 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 0.09 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 249 lb/hour 1,090 tons/year
5. Method of Compliance: Compliance with NO_x emission limit will be demonstrated using CEMS	
6. Allowable Emissions Comment (Description of Operating Method): This NO_x emissions limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. The NO_x emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

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: 0.6 lb/mmBtu on a 30-day rolling average	4. Equivalent Allowable Emissions: 1,658 lb/hour 7,264 tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): This NO_x emissions limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. This NO_x emissions limit is from NSPS Subpart Da. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:

3. Potential Emissions: 30 lb/hour (3-hour average) 133 tons/year	4. Synthetically Limited? ☐ Yes ☒ No

5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.011 lb/MMBTU (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The PM Emissions limit of 0.011 lb/mmBtu is set by construction permit PSD-FL-265.
The heat input rate to EU027 is 2,764 mmBtu/hr.
Hourly PM emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr) = 30 lb/hr
Annual PM emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb) =
= 133 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 0.011 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 30 lb/hour 133 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. Compliance testing while firing petroleum coke will be conducted quarterly for the first two years of operation and then annually thereafter. The quarterly and annual testing may be conducted while firing coal if petroleum coke has been fired for less than 100 hours during the previous quarter or less than 400 hours during the previous federal fiscal year.	
6. Allowable Emissions Comment (Description of Operating Method): This PM emissions limit is based on a 3-hour average. The PM emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

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: 0.03 lb/mmBtu on a 3-hour average	4. Equivalent Allowable Emissions: 83 lb/hour 363 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted.	
6. Allowable Emissions Comment (Description of Operating Method): This PM emissions limit is based on a 3-hour average. The PM emissions limit is from NSPS Subpart Da. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM_{10}	2. Total Percent Efficiency of Control:
3. Potential Emissions: 30 lb/hour (3-hour average) 133 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.011 lb/MMBTU (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The PM Emissions limit of 0.011 lb/mmBtu is set by construction permit PSD-FL-265.
The heat input rate to EU027 is 2,764 mmBtu/hr.
Hourly PM_{10} emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr) = 30 lb/hr
Annual PM_{10} emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb)
= 133 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.011 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 30 lb/hour 133 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. Compliance testing while firing petroleum coke will be conducted quarterly for the first two years of operation and then annually thereafter. The quarterly and annual testing may be conducted while firing coal if petroleum coke has been fired for less than 100 hours during the previous quarter or less than 400 hours during the previous federal fiscal year.	
6. Allowable Emissions Comment (Description of Operating Method): This PM_{10} emissions limit is based on a 3-hour average. The PM_{10} emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO_2	2. Total Percent Efficiency of Control:
3. Potential Emissions: 553 lb/hour (24-hour block average) 1,816 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.20 lb/MMBTU (24-hour block average) and 0.15 lb/mmBtu (30-day rolling average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The SO_2 Emissions limits of 0.20 lb/mmBtu (24-hour block average) and 0.15 lb/mmBtu (30-day rolling average) are set by construction permit PSD-FL-265.

The heat input rate to EU027 is 2,764 mmBtu/hr.

Hourly SO_2 emissions rate (24-hour average) = (0.20 lb/mmBtu)(2,764 mmBtu/hr) = 553 lb/hr

Hourly SO_2 emissions rate (30-day average) = (0.15 lb/mmBtu)(2,764 mmBtu/hr) = 415 lb/hr

Annual SO_2 emissions rate = (0.15 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb)
= 1,816 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.20 lb/mmBtu (24-hour block average)	4. Equivalent Allowable Emissions: 553 lb/hour 133 tons/year
5. Method of Compliance: Compliance with the SO_2 emission limit will be demonstrated using CEMs.	
6. Allowable Emissions Comment (Description of Operating Method): This SO_2 emissions limit is based on a 24-hour block average, excluding periods of startup, shutdown and malfunction. The 24-hour block average is calculated from midnight to midnight. The SO_2 emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour emissions are given for informational purposes only and do not constitute limits.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.15 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 415 lb/hour 1,816 tons/year
5. Method of Compliance: Compliance with the SO_2 emission limit will be demonstrated using CEMs.	
6. Allowable Emissions Comment (Description of Operating Method): This SO_2 limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. The SO_2 emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.6 lb/mmBtu (30-day roling average)	4. Equivalent Allowable Emissions: 1,658 lb/hour 7,264 tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): This SO_2 limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. This SO_2 emissions limit is from NSPS Subpart Da. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 14 lb/hour (3-hour average) 61.5 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 14 lb/hour (3-hour average) and 61.5 tons/year Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0
8. Calculation of Emissions: The VOC emissions limit of 14 lb/hour is set by construction permit PSD-FL-265. The VOC emissions limit of 61.5 tons/year is set by construction permit PSD-FL-265.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 14 lb/hour (3-hour average)	4. Equivalent Allowable Emissions: 14 lb/hour 61.5 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. Compliance testing will be conducted once within every five years thereafter while firing petroleum coke or coal.	
6. Allowable Emissions Comment (Description of Operating Method): This VOC emissions limit is based on a 3-hour average. The VOC emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265.	

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: 61.5 tons per year	4. Equivalent Allowable Emissions: lb/hour 61.5 tons/year
5. Method of Compliance: Compliance with the annual limit is demonstrated by demonstrating compliance with the short-term emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): The VOC emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H114	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.03 lb/hour (6-hour average) 0.13 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.03 lb/MMBTU (6-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:
The mercury emissions limit of 0.03 lb/hour is set by construction permit PSD-FL-265.
Annual mercury emissions rate = (0.03 lb/hr)(8,760 hr/yr)(ton/2,000 lb) = 0.13 tons/year

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.03 lb/mmBtu (6-hour average)	4. Equivalent Allowable Emissions: 0.03 lb/hour 0.13 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): This mercury emissions limit is based on a 6-hour average. The mercury emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and do not constitute a limit.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PB	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.07 lb/hour (3-hour average) 0.31 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.07 lb/MMBTU (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0
8. Calculation of Emissions: The lead emissions limit of 0.07 lb/hour is set by construction permit PSD-FL-265. Annual lead emissions rate = (0.07 lb/hr)(8,760 hr/yr)(ton/2,000 lb) = 0.31 tons/year	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute a limit.	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.07 lb/mmBtu (3 - hour average)	4. Equivalent Allowable Emissions: 0.07 lb/hour 0.31 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): This lead emissions limit is based on a 3-hour average. The lead emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and does not constitute a limit.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SAM	2. Total Percent Efficiency of Control:

3. Potential Emissions: 1.1 lb/hour (3-hour average) 4.82 tons/year	4. Synthetically Limited? ☐ Yes ☒ No

5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	

6. Emission Factor: 1.1 lb/hour (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The sulfuric acid mist emissions limit of 1.1 lb/hour is set by construction permit PSD-FL-265.

Annual sulfuric acid mist emissions rate = (1.1 lb/hr)(8,760 hr/yr)(ton/2,000 lb)
= 4.82 tons/year

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.1 lbs/hour (3-hour average)	4. Equivalent Allowable Emissions: 1.1 lb/hour 4.82 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit. Compliance with SO_2 limits based on CEMS data is used as a surrogate to indicate compliance with the SAM emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): The sulfuric acid mist emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and do not constitute a limit.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H107	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.43 lb/hour (3-hour average) 1.88 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.43 lb/hour (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:
The hydrogen fluoride emissions limit of 0.43 lb/hr is set by construction permit PSD-FL-265.
Annual hydrogen fluoride emissions rate = (0.43 lb/hr)(8,760 hr/yr)(ton/2,000 lb)
= 1.88 tons/year

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.43 lb/hour (3-hour average)	4. Equivalent Allowable Emissions: 0.43 lb/hour 1.88 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): This hydrogen fluoride emissions limit is based on a 3-hour average. The hydrogen fluoride emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and do not constitute a limit.	

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: V10	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: Compliance with the visible emissions limit will be demonstrated using a continuous opacity monitor (COM).	
5. Visible Emissions Comment: The visible emissions limit is based on a 6-minute block average and is based on excluding periods of startup, shutdown and malfunction. The visible emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: V20	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: Compliance with the visible emissions limit will be demonstrated using a continuous opacity monitor (COM).	
5. Visible Emissions Comment: The visible emissions limit is based on a 6-minute block average and is based on excluding periods of startup, shutdown and malfunction. This visible emissions limit is from NSPS Subpart Da.	

H. CONTINUOUS MONITOR INFORMATION

Complete 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:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: KVB/MIP Model Number: LM3086EPA3	Serial Number: 730217
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor 2 of 5

1. Parameter Code: EM	2. Pollutant(s): CO
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information... Manufacturer: TECO Model Number: 48C	Serial Number: 48C-70175-365
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment: Use of CEMs required by construction permit PSD-FL-265.	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 3 of 5

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: TECO Model Number: 42C	Serial Number: 42C-69028-362
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor 4 of 5

1. Parameter Code: EM	2. Pollutant(s): SO_2
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: TECO Model Number: 43C	Serial Number: 43C-69843-364
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment:	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 5 of 5

1. Parameter Code: CO_2	2. Pollutant(s):
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information... Manufacturer: CAI Model Number: ZRH	Serial Number: AOXO603T
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
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: _____ ☒ Previously Submitted, Date June 2003

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: _____ ☒ Previously Submitted, Date June 2003

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: _____ ☒ Previously Submitted, Date June 2003
   ☐ 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 June 2003
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Previously Submitted, Date: June 2003
   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

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) 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 (Rule 62-212.400(5)(h)6., F.A.C., and Rule 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: _____
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☒ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID:
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

Additional Requirements Comment

Additional Requirements Items were previously submitted within the past 5 years and would not be altered with this Project.

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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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:
NGS – Circulating Fluidized Bed Boiler No. 2

3. Emissions Unit Identification Number: EU026

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	Spring 2007	Feb 11, 2002	49	☒ Yes ☐ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: 306 MW

11. Emissions Unit Comment: As part of the proposed efficiency upgrade project on Unit 2, the General Electric low pressure (LP) steam turbine rotor will be entirely replaced in lieu of repairing the existing turbine, as is routinely done about every five years. The new LP steam turbine rotor will increase the gross output of Unit 2 from 297.5 MW to 306 MW, with no increase in boiler heat input, fuel consumption, or steam generation.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Initial sulfur dioxide (SO_2) control is achieved through limestone injection into the circulating fluidized bed (CFB) boiler. Further SO_2 control is achieved using an add-on spray dryer absorber. Calcium that is used to control SO_2 may be introduced into the CFB or spray dryer from a variety of sources, such as crushed limestone, slaked lime, bed ash and fly ash. Particulate matter (PM) consisting of flyash, the SO_2 control reaction products and unreacted calcium oxide is controlled using a fabric filter dust collector downstream of the spray dryer. Selective non catalytic reduction (SNCR) is used to reduce oxides of nitrogen (NO_x) emissions by reacting ammonia with NO_x to form molecular nitrogen and water.

2. Control Device or Method Code(s): 041, 013, 018, and 107

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 2,764 mmBtu/hour
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 8,760 hours/year
6. Operating Capacity/Schedule Comment: The maximum heat input rate is given in construction permit PSD-FL-265. The rate is included in the construction permit only for purposes of determining capacity during compliance stack tests. Continuous compliance with this rate is not required.

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: EU026	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NGS – Circulating Fluidized Bed Boiler No. 2 (EU026) shares a common stack with NGS – Circulating Fluidized Bed Boiler No. 1 (EU027). The common stack contains two separate flues, one for each CFB boiler.		
5. Discharge Type Code: V	6. Stack Height: 495 feet	7. Exit Diameter: 15 feet
8. Exit Temperature: 144 °F	9. Actual Volumetric Flow Rate: 700,300 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): 446.670 North (km): 3365.070	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: NGS – Circulating Fluidized Bed Boiler No. 2 (EU026) shares a common stack with NGS – Circulating Fluidized Bed Boiler No. 1 (EU027). The common stack contains two separate flues, one for each CFB boiler.		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type): Coal used in CFB Boiler No. 2		
2. Source Classification Code (SCC): 10100218	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 138	5. Maximum Annual Rate: 1,211,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 20 (approx)
10. Segment Comment:		

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type): Petroleum coke used in CFB Boiler No. 1		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 102	5. Maximum Annual Rate: 893,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 27.1 (approx)
10. Segment Comment: SCC number 10100218 is for external combustion boilers – electric generation – bituminous/subbituminous coal – atmospheric fluidized bed combustion: circulating bed (bituminous coal). SCC number 10100299 is used because a SCC number for combustion of petroleum coke was not found.		

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

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type): Coal and Petroleum coke blend used in Circulating Fluidized Bed Boiler No. 2		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 138	5. Maximum Annual Rate: 1,211,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 20 (approx.)
10. Segment Comment:		

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type): Natural gas including landfill gas used in Circulating Fluidized Bed Boiler No. 2		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate: 0.31 (approx.)	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2 gr/100 scf (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,000 (approx)
10. Segment Comment:		

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

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type): Distillate oil used in CFB Boiler No. 2		
2. Source Classification Code (SCC): 10100299	3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 2.26 (approx.)	5. Maximum Annual Rate: 1,211,000 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.05 (approx.)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 140 (approx.)
10. Segment Comment:		

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
CO			**EL**
NO_X	**107**		**EL**
PM	**018**		**EL**
PM_{10}	**018**		**EL**
SO_2	**041**	**013**	**EL**
VOC			**EL**
H114	**013**	**018**	**EL**
PB	**018**		**EL**
SAM	**041**	**013**	**EL**
H107	**013**		**EL**
H106	**013**		**NS**
HAPS			**NS**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 350 lb/hour (24-hour block average) 1,533 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 350 lb/hour (24-hour block average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0
8. Calculation of Emissions: The CO emissions limit of 350 lb/hour on a 24-hour average (excluding startup and shutdown) is set by construction permit PSD-FL-265. The CO emissions limit of 1,533 tons/year is set by construction permit PSD-FL-265.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 350 lb/hour (24-hour block average)	4. Equivalent Allowable Emissions: 350 lb/hour 1,533 tons/year
5. Method of Compliance: Compliance with CO emission limits will be demonstrated using CEMS	
6. Allowable Emissions Comment (Description of Operating Method): This CO emissions limit is based on a 24-hour block average, excluding periods of startup, shutdown and malfunction. The 24-hour block average is calculated from midnight to midnight. The CO emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

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: 1,533 tons per year	4. Equivalent Allowable Emissions: lb/hour 1,533 tons/year
5. Method of Compliance: Compliance with the annual CO emissions limit will be demonstrated by summing the hourly CO emission rate data from the CEMS.	
6. Allowable Emissions Comment (Description of Operating Method): The CO emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NO_x	2. Total Percent Efficiency of Control:
3. Potential Emissions: 249 lb/hour (30-day rolling average) 1,090 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.09 lb/MMBTU (30-day rolling average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The NO_x Emissions limit of 0.09 lb/mmBtu is set by construction permit PSD-FL-265.
The heat input rate to EU026 is 2,764 mmBtu/hr.
Hourly NO_x emissions rate = (0.09 lb/mmBtu)(2,764 mmBtu/hr) = 249 lb/hr
Annual NO_x emissions rate = (0.09 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb) =
= 1,090 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 0.09 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 249 lb/hour 1,090 tons/year
5. Method of Compliance: Compliance with NO_x emission limit will be demonstrated using CEMS	
6. Allowable Emissions Comment (Description of Operating Method): This NO_x emissions limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. The NO_x emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

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: 0.6 lb/mmBtu on a 30-day rolling average	4. Equivalent Allowable Emissions: 1,658 lb/hour 7,264 tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): This NO_x emissions limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. This NO_x emissions limit is from NSPS Subpart Da. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 30 lb/hour (3-hour average) 133 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.011 lb/MMBTU (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The PM Emissions limit of 0.011 lb/mmBtu is set by construction permit PSD-FL-265.
The heat input rate to EU026 is 2,764 mmBtu/hr.
Hourly PM emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr) = 30 lb/hr
Annual PM emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb) =
= 133 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 0.011 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 30 lb/hour 133 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. Compliance testing while firing petroleum coke will be conducted quarterly for the first two years of operation and then annually thereafter. The quarterly and annual testing may be conducted while firing coal if petroleum coke has been fired for less than 100 hours during the previous quarter or less than 400 hours during the previous federal fiscal year.	
6. Allowable Emissions Comment (Description of Operating Method): This PM emissions limit is based on a 3-hour average. The PM emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

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: 0.03 lb/mmBtu on a 3-hour average	4. Equivalent Allowable Emissions: 83 lb/hour 363 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted.	
6. Allowable Emissions Comment (Description of Operating Method): This PM emissions limit is based on a 3-hour average. The PM emissions limit is from NSPS Subpart Da. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM_{10}	2. Total Percent Efficiency of Control:
3. Potential Emissions: 30 lb/hour (3-hour average) 133 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.011 lb/MMBTU (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The PM Emissions limit of 0.011 lb/mmBtu is set by construction permit PSD-FL-265.
The heat input rate to EU026 is 2,764 mmBtu/hr.
Hourly PM_{10} emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr) = 30 lb/hr
Annual PM_{10} emissions rate = (0.011 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb)
= 133 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.011 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 30 lb/hour 133 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. Compliance testing while firing petroleum coke will be conducted quarterly for the first two years of operation and then annually thereafter. The quarterly and annual testing may be conducted while firing coal if petroleum coke has been fired for less than 100 hours during the previous quarter or less than 400 hours during the previous federal fiscal year.	
6. Allowable Emissions Comment (Description of Operating Method): This PM_{10} emissions limit is based on a 3-hour average. The PM_{10} emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO_2	2. Total Percent Efficiency of Control:
3. Potential Emissions: 553 lb/hour (24-hour block average) 1,816 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.20 lb/MMBTU (24-hour block average) and 0.15 lb/mmBtu (30-day rolling average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:

The SO_2 Emissions limits of 0.20 lb/mmBtu (24-hour block average) and 0.15 lb/mmBtu (30-day rolling average) are set by construction permit PSD-FL-265.

The heat input rate to EU026 is 2,764 mmBtu/hr.

Hourly SO_2 emissions rate (24-hour average) = (0.20 lb/mmBtu)(2,764 mmBtu/hr) = 553 lb/hr

Hourly SO_2 emissions rate (30-day average) = (0.15 lb/mmBtu)(2,764 mmBtu/hr) = 415 lb/hr

Annual SO_2 emissions rate = (0.15 lb/mmBtu)(2,764 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb)
= 1,816 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.20 lb/mmBtu (24-hour block average)	4. Equivalent Allowable Emissions: 553 lb/hour 133 tons/year
5. Method of Compliance: Compliance with the SO_2 emission limit will be demonstrated using CEMs.	
6. Allowable Emissions Comment (Description of Operating Method): This SO_2 emissions limit is based on a 24-hour block average, excluding periods of startup, shutdown and malfunction. The 24-hour block average is calculated from midnight to midnight. The SO_2 emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour emissions are given for informational purposes only and do not constitute limits.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.15 lb/mmBtu (30-day rolling average)	4. Equivalent Allowable Emissions: 415 lb/hour 1,816 tons/year
5. Method of Compliance: Compliance with the SO_2 emission limit will be demonstrated using CEMs.	
6. Allowable Emissions Comment (Description of Operating Method): This SO_2 limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. The SO_2 emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.6 lb/mmBtu (30-day roling average)	4. Equivalent Allowable Emissions: 1,658 lb/hour 7,264 tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): This SO_2 limit is based on a 30-day rolling average, excluding periods of startup, shutdown and malfunction. This SO_2 emissions limit is from NSPS Subpart Da. Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:

3. Potential Emissions: 14 lb/hour (3-hour average) 61.5 tons/year	4. Synthetically Limited? ☐ Yes ☒ No

5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	

6. Emission Factor: 14 lb/hour (3-hour average) and 61.5 tons/year Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:
The VOC emissions limit of 14 lb/hour is set by construction permit PSD-FL-265.
The VOC emissions limit of 61.5 tons/year is set by construction permit PSD-FL-265.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 14 lb/hour (3-hour average)	4. Equivalent Allowable Emissions: 14 lb/hour 61.5 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. Compliance testing will be conducted once within every five years thereafter while firing petroleum coke or coal.	
6. Allowable Emissions Comment (Description of Operating Method): This VOC emissions limit is based on a 3-hour average. The VOC emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265.	

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: 61.5 tons per year	4. Equivalent Allowable Emissions: lb/hour 61.5 tons/year
5. Method of Compliance: Compliance with the annual limit is demonstrated by demonstrating compliance with the short-term emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): The VOC emissions limits along with compliance determination requirements are included in construction permit PSD-FL-265.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H114	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.03 lb/hour (6-hour average) 0.13 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.03 lb/MMBTU (6-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:
The mercury emissions limit of 0.03 lb/hour is set by construction permit PSD-FL-265.
Annual mercury emissions rate = (0.03 lb/hr)(8,760 hr/yr)(ton/2,000 lb) = 0.13 tons/year

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.03 lb/mmBtu (6-hour average)	4. Equivalent Allowable Emissions: 0.03 lb/hour 0.13 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): This mercury emissions limit is based on a 6-hour average. The mercury emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and do not constitute a limit.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PB	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.07 lb/hour (3-hour average) 0.31 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.07 lb/MMBTU (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:
The lead emissions limit of 0.07 lb/hour is set by construction permit PSD-FL-265.
Annual lead emissions rate = (0.07 lb/hr)(8,760 hr/yr)(ton/2,000 lb) = 0.31 tons/year

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute a limit.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.07 lb/mmBtu (3 - hour average)	4. Equivalent Allowable Emissions: 0.07 lb/hour 0.31 tons/year

5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit.

6. Allowable Emissions Comment (Description of Operating Method):
This lead emissions limit is based on a 3-hour average. The lead emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and does not constitute a limit.

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SAM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.1 lb/hour (3-hour average) 4.82 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 1.1 lb/hour (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:
The sulfuric acid mist emissions limit of 1.1 lb/hour is set by construction permit PSD-FL-265.
Annual sulfuric acid mist emissions rate = (1.1 lb/hr)(8,760 hr/yr)(ton/2,000 lb)
= 4.82 tons/year

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.1 lbs/hour (3-hour average)	4. Equivalent Allowable Emissions: 1.1 lb/hour 4.82 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit. Compliance with SO_2 limits based on CEMS data is used as a surrogate to indicate compliance with the SAM emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): The sulfuric acid mist emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and do not constitute a limit.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H107	2. Total Percent Efficiency of Control:

3. Potential Emissions: 0.43 lb/hour (3-hour average) 1.88 tons/year	4. Synthetically Limited? ☐ Yes ☒ No

5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	

6. Emission Factor: 0.43 lb/hour (3-hour average) Reference: Construction Permit PSD-FL-265	7. Emissions Method Code: 0

8. Calculation of Emissions:
The hydrogen fluoride emissions limit of 0.43 lb/hr is set by construction permit PSD-FL-265.
Annual hydrogen fluoride emissions rate = (0.43 lb/hr)(8,760 hr/yr)(ton/2,000 lb)
= 1.88 tons/year

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Equivalent pound per hour and ton per year emissions are given for informational purposes only and do not constitute limits.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.43 lb/hour (3-hour average)	4. Equivalent Allowable Emissions: 0.43 lb/hour 1.88 tons/year
5. Method of Compliance: Using appropriate EPA Methods, initial compliance tests while firing coal and while firing petroleum coke were conducted. As stipulated in construction permit PSD-FL-265, initial compliance tests only are required to show compliance with this emissions limit.	
6. Allowable Emissions Comment (Description of Operating Method): This hydrogen fluoride emissions limit is based on a 3-hour average. The hydrogen fluoride emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265. Equivalent ton per year emissions are given for informational purposes only and do not constitute a limit.	

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: V10	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: Compliance with the visible emissions limit will be demonstrated using a continuous opacity monitor (COM).	
5. Visible Emissions Comment: The visible emissions limit is based on a 6-minute block average and is based on excluding periods of startup, shutdown and malfunction. The visible emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: V20	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: Compliance with the visible emissions limit will be demonstrated using a continuous opacity monitor (COM).	
5. Visible Emissions Comment: The visible emissions limit is based on a 6-minute block average and is based on excluding periods of startup, shutdown and malfunction. This visible emissions limit is from NSPS Subpart Da.	

H. CONTINUOUS MONITOR INFORMATION

Complete 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:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: KVB/MIP Model Number: LM3086EPA3	Serial Number: 730217
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor 2 of 5

1. Parameter Code: EM	2. Pollutant(s): CO
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information... Manufacturer: TECO Model Number: 48C	Serial Number: 48C-70175-365
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment: Use of CEMs required by construction permit PSD-FL-265.	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 3 of 5

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: TECO Model Number: 42C	Serial Number: 42C-69028-362
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor 4 of 5

1. Parameter Code: EM	2. Pollutant(s): SO_2
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: TECO Model Number: 43C	Serial Number: 43C-69843-364
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
7. Continuous Monitor Comment:	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 5 of 5

1. Parameter Code: CO_2	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: CAI Model Number: ZRH	Serial Number: AOXO603T
5. Installation Date:	6. Performance Specification Test Date: June 10, 2002
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: _____ ☒ Previously Submitted, Date June 2003

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: _____ ☒ Previously Submitted, Date June 2003

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: _____ ☒ Previously Submitted, Date June 2003
   ☐ 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 June 2003
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Previously Submitted, Date: June 2003
   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

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ [X] Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ [X] Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ [X] Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: _____
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ [X] Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ [X] Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ [X] Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID:
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   [X] Not Applicable

Additional Requirements Comment

Additional Requirements Items were previously submitted within the past 5 years and would not be altered with this Project.

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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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:
NGS – Circulating Fluidized Bed Boiler No. 3

3. Emissions Unit Identification Number: EU003

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	Fall 2005	June 28, 1977	49	☒ Yes ☐ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: 306 MW

11. Emissions Unit Comment: As part of the proposed efficiency upgrade project on Unit 3, . JEA proposes to replace high pressure and intermediate pressure (HP/IP) turbine rotor components in lieu of routine repair and maintenance of the existing equipment, which is nearly 27 years old. Installation of a new Westinghouse HP/IP steam rotor will increase the gross output of Unit by approximately 17 MW, with no increase in boiler heat input, fuel consumption, or steam generation.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Pollutant emissions from this emissions unit are uncontrolled.

2. Control Device or Method Code(s):

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 5,260 mmBtu/hour	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

6. Operating Capacity/Schedule Comment:
The nominal maximum heat input rates are:

5,260 MMBtu/hr when firing natural gas;
5,260 MMBtu/hr when firing landfill gas;
5,033 MMBtu/hr when firing No. 6 fuel oil;
5,033 MMBtu/hr when firing "On-specification" used oil;
5,033 – 5,260 MMBtu/hr when firing a combination of fuel oil and natural gas
5,033 – 5,260 MMBtu/hr when firing a combination of fuel oil and natural/landfill gases

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: EU003	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: The combustion gases exhaust through a 300 foot stack.		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: V	6. Stack Height: 300 feet	7. Exit Diameter: 15 feet
8. Exit Temperature: 144 °F	9. Actual Volumetric Flow Rate: 700,300 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): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type): No. 6 fuel oil used in NGS Boiler No. 3.		
2. Source Classification Code (SCC): 10100401	3. SCC Units: 1000 gallons burned	
4. Maximum Hourly Rate: 33.55 (approx.)	5. Maximum Annual Rate: 293,926 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 1.8	8. Maximum % Ash:	9. Million Btu per SCC Unit: 150 (approx.)
10. Segment Comment: No. 6 fuel oil heating value data taken from USEPA AP-42 Appendix A. The maximum sulfur content given in operation permit 0310045-008-AV applies if the SO_2 continuous emissions monitor system is temporarily inoperative.		

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type): Natural Gas		
2. Source Classification Code (SCC): 10100601	3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate: 5.01 (approx.)	5. Maximum Annual Rate: 43.883 (approx.)	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,050 (approx)
10. Segment Comment: The natural gas heating value was taken from USEPA AP-42 Appendix A.		

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

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type): Landfill Gas		
2. Source Classification Code (SCC): 10100601	3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 8 (approx)	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type): "On-specification" used oil.		
2. Source Classification Code (SCC):	3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: The use of "on-specification" used oil is limited by operation permit 0310045-008-AV to 1,000,000 gallons per year.		

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

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type): Fuel oil and natural gas		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

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
CO			**NS**
NO_X			**EL**
PM			**EL**
PM_{10}			**NS**
SO_2			**EL**
VOC			**NS**
PB			**NS**
H014			**NS**
H047			**NS**
H095			**NS**
H104			**NS**
H133			**NS**
H148			**NS**
H169			**NS**
HAPS			**NS**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NO_x	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1,578 lb/hour 3,600 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: Operation permit 0310045-008-AV and Rule 62-296.405(1)(d)1., F.A.C.	7. Emissions Method Code: 0

8. Calculation of Emissions:

The NO_x Emissions limit of 0.30 lb/mmBtu is set by operation permit 0310045-008-AV.
The heat input rate to EU003 is 5,260 mmBtu/hr.
Hourly NO_x emissions rate = (0.30 lb/mmBtu)(5,260 mmBtu/hr) = 1,578 lb/hr
Annual NO_x emissions rate = (0.30 lb/mmBtu)(5,260 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb) =
= 6,912 ton/yr
Construction Permit PSD-FL-265 limits combined NOx emissions from Units 1, 2 and 3 to 3,600 tons per consecutive 12-month period.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 30.3 lb/mmBtu	4. Equivalent Allowable Emissions: 1,578 lb/hour tons/year
5. Method of Compliance: Compliance with NO_x emission limits will be demonstrated using CEMS	
6. Allowable Emissions Comment (Description of Operating Method): The NO_x emissions limit along with compliance determination requirements are included in operation permit 0310043-002-AV and are based on Rule 62-296.405(1)(d)1., F.A.C. and Rule 62-296.405(1)(e)4., F.A.C. The NO_x emissions limit is on a 30-day rolling average basis. Excess emissions resulting from malfunction are allowed pursuant to Rule 62-210.700(1), F.A.C. and excess emissions resulting from startup or shutdown are allowed pursuant to Rule 62-210.700(2), F.A.C.	

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: tons per year	4. Equivalent Allowable Emissions: lb/hour 3,600 tons/year
5. Method of Compliance: Compliance with NO_x emission limits will be demonstrated using CEMS	
6. Allowable Emissions Comment (Description of Operating Method): Construction Permit PSD-FL-265 limits combined NOx emissions from Units 1, 2 and 3 to 3,600 tons per consecutive 12-month period. Therefore, the maximum NOx emissions from Unit 3, absent operation of Units 1 and 2, is 3,600 tons per year. This NOx emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 526 lb/hour 881 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: Operation permit 0310045-008-AV, Rule 62-296.405(1)(b), F.A.C. and Rule 62-296.702(2)(a), F.A.C.	7. Emissions Method Code: 0

8. Calculation of Emissions:

The PM Emissions limit of 0.1 lb/mmBtu is set by operation permit 0310045-008-AV.
The heat input rate to EU003 is 5,260 mmBtu/hr.
Hourly PM emissions rate = (0.1 lb/mmBtu)(5,260 mmBtu/hr) = 526 lb/hr
Annual PM emissions rate = (0.1 lb/mmBtu)(5,260 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb) =
= 2,304 ton/yr
Construction Permit PSD-FL-265 limits combined PM emissions from Units 1, 2 and 3 to 881 tons per consecutive 12-month period.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 3

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: 526 lb/hour tons/year
5. Method of Compliance: Using appropriate EPA Methods	
6. Allowable Emissions Comment (Description of Operating Method): The PM emissions limit along with compliance determination requirements are included in operation permit 0310045-008-AV and are based on Rule 62-296.405(1)(b), F.A.C. and Rule 62-296.702(2)(a), F.A.C. Excess emissions resulting from malfunction are allowed pursuant to Rule 62-210.700(1), F.A.C. and excess emissions resulting from startup or shutdown are allowed pursuant to Rule 62-210.700(2), F.A.C.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.3 lb/mmBtu during boiler cleaning	4. Equivalent Allowable Emissions: 526 lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): The PM emissions limit along with compliance determination requirements are included in operation permit 0310045-008-AV and are based on Rule 62-210.700(3), F.A.C. This emissions limit applies during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.	

Allowable Emissions Allowable Emissions ___3___ of ___3___

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 881 tons/year
5. Method of Compliance (limit to 60 characters): Determining particulate matter emissions from this emissions unit to show compliance with this limit is based on the formula provided in Construction Permit PSD-FL-265.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Construction Permit PSD-FL-265 limits combined PM emissions from Units 1, 2 and 3 to 881 tons per consecutive 12-month period. Therefore, the maximum PM emissions from Unit 3, absent operation of Units 1 and 2, is 881 tons per year. This PM emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO_2	2. Total Percent Efficiency of Control:
3. Potential Emissions: 10,415 lb/hour 12,284 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 1.98 lb/mmBtu Reference: Operation permit 0310045-008-AV, Rule 62-296.405(1)(c)1.a., F.A.C.	7. Emissions Method Code: 0

8. Calculation of Emissions:

The SO_2 Emissions limits of 1.98 lb/mmBtu is set by operation permit 0310045-008-AV.
The heat input rate to EU003 is 5,260 mmBtu/hr.
Hourly SO_2 emissions rate = (1.98 lb/mmBtu)(5,260 mmBtu/hr) = 10,415 lb/hr
Annual SO_2 emissions rate = (1.98 lb/mmBtu)(5,260 mmBtu/hr)(8,760 hr/yr)(ton/2,000 lb)
= 45,617 ton/yr
Construction Permit PSD-FL-265 limits combined SO_2 emissions from Units 1, 2 and 3 to 12,284 tons per consecutive 12-month period.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: 1.98 lb/mmBtu	4. Equivalent Allowable Emissions: 10,415 lb/hour tons/year
5. Method of Compliance: Compliance with the SO_2 emission limit will be demonstrated using CEMs.	
6. Allowable Emissions Comment (Description of Operating Method): The SO_2 emissions limits along with compliance determination requirements are included in operation permit 0310045-008-AV and based on rule 62-296.405(1)(c)1.a., F.A.C. Excess emissions resulting from malfunction are allowed pursuant to Rule 62-210.700(1), F.A.C. and excess emissions resulting from startup or shutdown are allowed pursuant to Rule 62-210.700(2), F.A.C.	

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:	4. Equivalent Allowable Emissions: 12,284 tons/year
5. Method of Compliance: Compliance with the SO_2 emission limit will be demonstrated using CEMs.	
6. Allowable Emissions Comment (Description of Operating Method): Construction Permit PSD-FL-265 limits combined SO_2 emissions from Units 1, 2 and 3 to 12,284 tons per consecutive 12-month period. Therefore, the maximum SO_2 emissions from Unit 3, absent operation of Units 1 and 2, is 12,284 tons per year. This SO_2 emissions limit along with compliance determination requirements are included in construction permit PSD-FL-265.	

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE40	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: 40 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: DEP Method 9	
5. Visible Emissions Comment: The visible emissions limit along with compliance determination requirements are included in operation permit 0310045-008-AV and are based on Rule 62-296.405(1)(1), F.A.C. and Rule 62-296.702(2)(b), F.A.C. Excess emissions resulting from malfunction are allowed pursuant to Rule 62-210.700(1), F.A.C. and excess emissions resulting from startup or shutdown are allowed pursuant to Rule 62-210.700(2), F.A.C.	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE60	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: 60 % Exceptional Conditions: 27 % Maximum Period of Excess Opacity Allowed: 6 min/hour	
4. Method of Compliance: DEP Method 9	
5. Visible Emissions Comment: The visible emissions limit along with compliance determination requirements are included in operation permit 0310045-008-AV and are based on Rule 62-210.700(3), F.A.C. This visible emissions limit applies during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: TECO Model Number: 42D	Serial Number: 42D-48008-279
5. Installation Date: July 9, 1994	6. Performance Specification Test Date: May 5, 1995
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: EM	2. Pollutant(s): SO_2
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information... Manufacturer: TECO Model Number: 43B	Serial Number: 43B-46865-276
5. Installation Date: July 9, 1994	6. Performance Specification Test Date: May 5, 1995
7. Continuous Monitor Comment:	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 3 of 3

1. Parameter Code: CO_2	2. Pollutant(s):
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information... Manufacturer: TECO Model Number: 41H	Serial Number: 41H-48550-281
5. Installation Date: July 9, 1994	6. Performance Specification Test Date: May 5, 1995
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: _____ ☒ Previously Submitted, Date June 2003

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: _____ ☒ Previously Submitted, Date June 2003

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: _____ ☒ Previously Submitted, Date June 2003
   ☐ 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 June 2003
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Previously Submitted, Date: June 2003
   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

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) 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 (Rule 62-212.400(5)(h)6., F.A.C., and Rule 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: _____
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☒ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☒ Not Applicable

Additional Requirements Comment

Additional Requirements Items were previously submitted within the past 5 years and would not be altered with this Project.

Appendix C

Emission Calculations Spreadsheets

Pre-Project Baseline Actual Annual Emissions

Method (Most Recent 24 Months)								
Year	Month	Total Heat Input (MBtu)	CEM NOx Emissions (tons)	Calculated VOC Emissions (tons)	Calculated PM10 Emissions (tons)	CEM SOx Emissions (tons)	Calculated CO Emissions (tons)	Calculated PM Emissions (tons)
2002	Jul	2.19E+06	396.00	5.63	60.95	982.00	60.18	63.74
2002	Aug	1.94E+06	321.00	4.98	53.95	979.00	53.27	56.43
2002	Sep	2.14E+06	333.00	5.51	59.74	1058.00	58.99	62.48
2002	Oct	1.89E+06	375.12	4.86	52.66	1151.55	51.99	55.07
2002	Nov	7.66E+05	120.29	1.97	21.35	374.76	21.09	22.33
2002	Dec	1.26E+06	232.42	3.25	35.23	898.20	34.78	36.84
2003	Jan	1.47E+06	280.31	3.75	28.51	746.04	37.33	54.03
2003	Feb	1.73E+05	21.25	0.44	3.36	67.91	4.40	6.36
2003	Mar	1.49E+06	224.57	3.81	28.95	668.43	37.92	54.87
2003	Apr	1.10E+06	156.25	2.80	21.29	485.65	27.88	40.35
2003	May	1.34E+06	202.17	3.43	26.06	675.68	34.13	49.39
2003	Jun	1.46E+06	196.89	3.74	28.42	816.54	37.22	53.86
2003	Jul	1.45E+06	245.32	3.69	28.07	870.59	36.76	53.20
2003	Aug	1.92E+06	311.25	4.90	37.24	928.06	48.77	70.58
2003	Sep	1.81E+06	276.22	4.62	35.10	999.81	45.97	66.53
2003	Oct	1.43E+06	195.66	3.65	27.75	906.68	36.34	52.59
2003	Nov	1.22E+06	174.66	3.13	23.77	796.51	31.13	45.05
2003	Dec	1.36E+06	220.45	3.48	26.44	873.29	34.62	50.11
2004	Jan	7.10E+05	108.79	1.82	19.56	420.21	18.31	29.7
2004	Feb	8.72E+05	156.26	2.23	24.04	570.79	22.51	40.66
2004	Mar	1.39E+06	157.15	3.57	38.40	743.25	35.95	62.21
2004	Apr	1.64E+06	182.48	4.20	45.20	689.15	42.32	65.05
2004	May	1.24E+06	179.73	3.19	34.31	653.88	32.12	51.74
2004	Jun	1.81E+06	247.55	4.64	49.98	968.56	46.79	77.47
Most Recent 24-Month Average (tpy)			2,657	44	405	9,162	445	610

Calculate Monthly Heat Input

		Oil Burned (bbls)	Avg HC (btu/bbl)	Gas Burned (kcf)	Avg HC (btu/cf)	LFG Burned (kcf)	Avg HC (btu/cf)	Heat Input (Mbtu)
1999	Jan	202571	6327613	695489	1067			2,023,878
1999	Feb	239436	6330649	203223	1070			1,733,234
1999	Mar	152981	6388441	1283760	1066			2,345,670
1999	Apr	167695	6347549	786378	1064			1,901,158
1999	May	140464	6333713	442413	1064	1608	500	1,361,190
1999	Jun	174283	6319715	640516	1059	34835	510	1,797,491
1999	Jul	222185	6325280	774711	1055	40906	525	2,244,178
1999	Aug	193280	6331087	1166330	1053	48193	511	2,476,445
1999	Sep	140893	6331357	867195	1053	36044	541	1,824,700
1999	Oct	2549	6331357	9430	1052	0	537	26,059
1999	Nov	0	6331357	0	1055	0	512	0
1999	Dec	27092	6323541	309240	1051	13575	512	503,279
1999	**TOTAL**	1663409		7178685		175161		18,237,282
2000	Jan	120830	6327597	648933	1049	38412	532	1,465,729
2000	Feb	74694	6353283	504549	1049	26833	524	1,017,885
2000	Mar	68455	6357429	970768	1049	35829	509	1,471,770
2000	Apr	38048	6375237	512348	1050	15797	534	788,966
2000	May	126378	6374089	972295	1050	31435	541	1,843,448
2000	Jun	192121	6348669	785683	1052	26811	537	2,039,501
2000	Jul	188186	6312973	772415	1051	38200	521	2,019,724
2000	Aug	232420	6261547	872173	1053	24812	512	2,386,411
2000	Sep	141341	6313947	402748	1053	25071	536	1,329,951
2000	Oct	69447	6339600	232512	1055	6246	537	688,920
2000	Nov	1	6339600	670	1055	0	517	713
2000	Dec	79296	6345482	72221	1056	9990	504	584,470
2000	**TOTAL**	1331215		6727315		279236		15,637,489
2001	Jan	171081	6316781	429045	1064	16137	534	1,545,799
2001	Feb	190581	6367869	61080	1076	0	534	1,279,317
2001	Mar	88626	6365046	157083	1065	0	500	731,402
2001	Apr	226328	6378853	407372	1065	25715	498	1,890,370
2001	May	207787	6367530	440669	1066	16465	505	1,801,158
2001	Jun	240086	6353843	451581	1059	29355	506	2,018,547
2001	Jul	284003	6358074	392295	1058	28800	505	2,235,304
2001	Aug	271425	6373497	623564	1058	33553	521	2,407,138
2001	Sep	155750	6367916	824492	1058	16708	541	1,873,154
2001	Oct	54756	6369715	520382	1056	0	500	898,304
2001	Nov	96978	6368967	136979	1046	321	541	761,200
2001	Dec	63192	6369976	399471	1051	0	541	822,376
2001	**TOTAL**	2050593		4844013		167054		18,264,069
2002	Jan	83329	6369976	751681	1054	0	491	1,323,076
2002	Feb	116191	6369976	926422	1055	22835	491	1,728,721
2002	Mar	151727	6369976	1328731	1052	25995	505	2,377,450
2002	Apr	138123	6335464	841675	1050	0	492	1,758,832
2002	May	101525	6328400	340442	1049	726	526	999,996
2002	Jun	137569	6319912	1061300	1053	2779	518	1,988,412
2002	Jul	186448	6331438	938540	1056	28109	527	2,186,396
2002	Aug	169322	6331431	802135	1056	29412	554	1,935,399
2002	Sep	203742	6331431	800343	1053	19503	528	2,143,037
2002	Oct	189184	6322309	651971	1051	14705	531	1,888,983
2002	Nov	65054	6328284	336223	1054	0	531	766,059
2002	Dec	139048	6328284	381668	1054	4808	520	1,263,633
2002	**TOTAL**	1681242		9141131		148872		20,359,995
2003	Jan	136904	6325590	568599	1060	0	520	1,468,714
2003	Feb	15073	6315538	73227	1058	565	500	172,951
2003	Mar	111693	6313986	738035	1054	16425	523	1,491,707
2003	Apr	77660	6344961	570521	1057	2280	529	1,096,996
2003	May	111327	6345238	598852	1061	1549	527	1,342,595
2003	Jun	134928	6345238	562162	1063	19673	527	1,464,096
2003	Jul	145617	6349977	483272	1064	14824	487	1,448,085
2003	Aug	175830	6360382	750634	1058	12541	494	1,918,712
2003	Sep	183591	6350594	595929	1058	23996	503	1,808,475
2003	Oct	160631	6479122	381130	1054	15572	525	1,429,554
2003	Nov	136881	6437016	315905	1050	22676	526	1,224,604
2003	Dec	157992	6455130	320666	1047	13420	490	1,362,172
2003	**TOTAL**	1548107		5938932		143521		16,226,661
2004	Jan	74645	6408995	215546	1055	7590	489	709,512
2004	Feb	102829	6408995	201098	1050	3856	491	872,077
2004	Mar	160094	6375877	351013	1049	7708	524	1,392,991
2004	Apr	173061	6331460	510723	1050	15598	483	1,639,522
2004	May	138185	6333073	343920	1056	12191	508	1,244,508
2004	Jun	209166	6337719	458013	1049	15065	458	1,812,991

Note: Monthly Fuel Use Data Obtained from NGS Generation Statistics Datasheets

Historical Emissions and Heat Input
Raw Data

Annual AOR Emissions Reports

	NOx	VOC	PM10	SOx	CO	PM
1999 AOR Emissions (tons/year)	3,249.00	46.77	300.95	11,460.00	476.73	300.95
2000 AOR Emissions (tons/year)	2,459.00	40.53	495.56	8,014.00	423.35	514.75
2001 AOR Emissions (tons/year)	3,255.00	46.51	773.18	13,130.00	419.24	786.98
2002 AOR Emissions (tons/year)	3,630.50	52.39	567.56	8,957.70	560.39	593.58
2003 AOR Emissions (tons/year)	2,478.00	41.45	314.95	8,836.00	412.46	596.92
2004 AOR Emissions (tons/year)	NA	NA	NA	NA	NA	NA

Calculated Total Heat Input by Month

	Total Heat Input (MBtu)
1999 Jan	2,023,877.66
1999 Feb	1,733,233.88
1999 Mar	2,345,670.48
1999 Apr	1,901,158.42
1999 May	1,361,190.09
1999 Jun	1,797,491.18
1999 Jul	2,244,178.09
1999 Aug	2,476,444.61
1999 Sep	1,824,700.02
1999 Oct	26,058.99
1999 Nov	0.00
1999 Dec	503,279.01
1999 TOTAL	**18,237,282.45**
2000 Jan	1,465,729.45
2000 Feb	1,017,884.51
2000 Mar	1,471,770.40
2000 Apr	788,966.02
2000 May	1,843,447.96
2000 Jun	2,039,501.26
2000 Jul	2,019,723.50
2000 Aug	2,386,410.67
2000 Sep	1,329,951.28
2000 Oct	688,920.46
2000 Nov	713.19
2000 Dec	584,470.09
2000 TOTAL	**15,637,488.78**
2001 Jan	1,545,798.83
2001 Feb	1,279,316.92
2001 Mar	731,401.96
2001 Apr	1,890,370.29
2001 May	1,801,157.94
2001 Jun	2,018,546.66
2001 Jul	2,235,304.20
2001 Aug	2,407,138.25
2001 Sep	1,873,154.48
2001 Oct	898,303.51
2001 Nov	761,200.35
2001 Dec	822,375.54
2001 TOTAL	**18,264,068.93**
2002 Jan	1,323,075.50
2002 Feb	1,728,721.08
2002 Mar	2,377,449.84
2002 Apr	1,758,832.04
2002 May	999,996.34
2002 Jun	1,988,412.40
2002 Jul	2,186,395.64
2002 Aug	1,935,399.37
2002 Sep	2,143,037.18
2002 Oct	1,888,983.14
2002 Nov	766,059.23
2002 Dec	1,263,633.47
2002 TOTAL	**20,359,995.21**
2003 Jan	1,468,713.51
2003 Feb	172,950.77
2003 Mar	1,491,707.20
2003 Apr	1,096,996.49
2003 May	1,342,594.61
2003 Jun	1,464,096.15
2003 Jul	1,446,085.30
2003 Aug	1,918,711.99
2003 Sep	1,808,474.77
2003 Oct	1,429,554.17
2003 Nov	1,224,604.27
2003 Dec	1,362,172.00
2003 TOTAL	**16,226,661.23**
2004 Jan	709,511.97
2004 Feb	872,076.74
2004 Mar	1,392,991.28
2004 Apr	1,639,521.78
2004 May	1,244,508.24
2004 Jun	1,812,990.74

Annual Emission Factor Calculations

	NOx	VOC	PM10	SOx	CO	PM
1999 Emission Factor (lb/MBtu)	0.3563	0.0051	0.0330	1.2568	0.0523	0.0330
2000 Emission Factor (lb/MBtu)	0.3145	0.0052	0.0634	1.0250	0.0541	0.0658
2001 Emission Factor (lb/MBtu)	0.3564	0.0051	0.0847	1.4378	0.0459	0.0862
2002 Emission Factor (lb/MBtu)	0.3566	0.0051	0.0558	0.8799	0.0550	0.0583
2003 Emission Factor (lb/MBtu)	0.3054	0.0051	0.0388	1.0891	0.0508	0.0736
2004 Emission Factor (lb/MBtu)[1]	0.33786	0.00513	0.05512	1.13771	0.05164	0.06338

[1] Since 2004 AOR are not due yet, the emission factors for 2004 were calculated by averaging the previous 5 year respective emission factors.

Calculated Baseline Actual Monthly Emissions

Calculated Monthly Emissions (tons)

	NOx	VOC	PM10	SOx	CO	PM
1999 Jan	360.56	5.19	33.40	1271.77	52.90	33.40
1999 Feb	308.78	4.44	28.60	1089.13	45.31	28.60
1999 Mar	417.88	6.02	38.71	1473.98	61.32	38.71
1999 Apr	338.69	4.88	31.37	1194.66	49.70	31.37
1999 May	242.50	3.49	22.46	855.35	35.58	22.46
1999 Jun	320.23	4.61	29.66	1129.51	46.99	29.66
1999 Jul	399.80	5.76	37.03	1410.20	58.66	37.03
1999 Aug	441.18	6.35	40.87	1556.16	64.74	40.87
1999 Sep	325.07	4.68	30.11	1146.61	47.70	30.11
1999 Oct	4.64	0.07	0.43	16.38	0.68	0.43
1999 Nov	0.00	0.00	0.00	0.00	0.00	0.00
1999 Dec	89.66	1.29	8.31	316.25	13.16	8.31
1999 TOTAL	**3249.00**	**46.77**	**300.95**	**11460.00**	**476.73**	**300.95**
1999 AOR Total	**3249.00**	**46.77**	**300.95**	**11460.00**	**476.73**	**300.95**
2000 Jan	230.49	3.80	46.45	751.17	39.68	48.25
2000 Feb	160.06	2.64	32.26	521.65	27.56	33.51
2000 Mar	231.44	3.81	46.64	754.26	39.84	48.45
2000 Apr	124.07	2.04	25.00	404.33	21.36	25.97
2000 May	289.88	4.78	58.42	944.74	49.91	60.68
2000 Jun	320.71	5.29	64.63	1045.22	55.21	67.14
2000 Jul	317.60	5.23	64.01	1035.08	54.68	66.48
2000 Aug	375.26	6.19	75.63	1223.00	64.61	78.56
2000 Sep	209.14	3.45	42.15	681.58	36.01	43.78
2000 Oct	108.33	1.79	21.83	353.06	18.65	22.68
2000 Nov	0.11	0.00	0.02	0.37	0.02	0.02
2000 Dec	91.91	1.51	18.52	299.53	15.82	19.24
2000 TOTAL	**2459.00**	**40.53**	**495.56**	**8014.00**	**423.35**	**514.75**
2000 AOR Total	**2459.00**	**40.53**	**495.56**	**8014.00**	**423.35**	**514.75**
2001 Jan	275.49	3.94	65.44	1111.27	35.48	66.61
2001 Feb	228.00	3.26	54.16	919.70	29.37	55.12
2001 Mar	130.35	1.86	30.96	525.80	16.79	31.52
2001 Apr	336.90	4.81	80.03	1358.98	43.39	81.45
2001 May	321.00	4.59	76.25	1294.85	41.34	77.61
2001 Jun	359.74	5.14	85.45	1451.13	46.33	86.98
2001 Jul	398.37	5.69	94.63	1606.96	51.31	96.32
2001 Aug	429.00	6.13	101.90	1730.49	55.25	103.72
2001 Sep	333.83	4.77	79.30	1346.61	43.00	80.71
2001 Oct	160.09	2.29	38.03	645.79	20.62	38.71
2001 Nov	135.66	1.94	32.22	547.23	17.47	32.80
2001 Dec	146.56	2.09	34.81	591.20	18.88	35.44
2001 TOTAL	**3255.00**	**46.51**	**773.18**	**13130.00**	**419.24**	**786.98**
2001 AOR Total	**3255.00**	**46.51**	**773.18**	**13130.00**	**419.24**	**786.98**
2002 Jan	235.92	3.40	36.88	582.11	36.42	38.57
2002 Feb	308.26	4.45	48.19	760.58	47.58	50.40
2002 Mar	423.94	6.12	66.27	1046.00	65.44	69.31
2002 Apr	313.63	4.53	49.03	773.83	48.41	51.28
2002 May	178.31	2.57	27.88	439.96	27.52	29.15
2002 Jun	354.56	5.12	55.43	874.83	54.73	57.97
2002 Jul	396.00	5.63	60.95	982.00	60.18	63.74
2002 Aug	321.00	4.98	53.95	979.00	53.27	56.43
2002 Sep	333.00	5.51	59.74	1058.00	58.99	62.48
2002 Oct	375.12	4.86	52.66	1151.55	51.99	55.07
2002 Nov	120.29	1.97	21.35	374.76	21.09	22.33
2002 Dec	232.42	3.25	35.23	898.20	34.78	36.84
2002 TOTAL	**3592.45**	**52.39**	**567.56**	**9920.82**	**560.39**	**593.58**
2002 AOR Total	**3630.50**	**52.39**	**567.56**	**8957.70**	**560.39**	**593.58**
2003 Jan	280.31	3.75	28.51	746.04	37.33	54.03
2003 Feb	21.25	0.44	3.36	67.91	4.40	6.36
2003 Mar	224.57	3.81	28.95	668.43	37.92	54.87
2003 Apr	156.25	2.80	21.29	485.65	27.88	40.35
2003 May	202.17	3.43	26.06	675.68	34.13	49.39
2003 Jun	196.89	3.74	28.42	816.54	37.22	53.86
2003 Jul	245.32	3.69	28.07	870.59	36.76	53.20
2003 Aug	311.25	4.90	37.24	928.06	48.77	70.58
2003 Sep	276.22	4.62	35.10	999.81	45.97	66.53
2003 Oct	195.66	3.65	27.75	906.68	36.34	52.59
2003 Nov	174.66	3.13	23.77	796.51	31.13	45.05
2003 Dec	220.45	3.48	26.44	873.29	34.62	50.11
2003 TOTAL	**2504.99**	**41.45**	**314.95**	**8835.20**	**412.46**	**596.92**
2003 AOR Total	**2478.00**	**41.45**	**314.95**	**8836.00**	**412.46**	**596.92**
2004 Jan	108.79	1.82	19.56	420.21	18.32	22.48
2004 Feb	156.26	2.24	24.04	570.79	22.52	27.64
2004 Mar	157.15	3.57	38.39	743.25	35.97	44.14
2004 Apr	182.48	4.21	45.19	689.15	42.34	51.96
2004 May	179.73	3.19	34.30	653.88	32.14	39.44
2004 Jun	247.55	4.65	49.97	968.56	46.82	57.45

Note: Emissions of NOx and SOx are actual CEM emissions and are not based on emission factors calculated from AOR Data and Heat Inputs.
The most recent 24-months of data are from July 2002 through June 2004.